UNIVERSITY OF LONDON

UNIVERSITY COLLEGE ANNUAL REPORT 1974-1975

UNIVERSITY COLLEGE
LONDON

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OFFICERS OF THE COLLEGE

CHAIRMAN OF THE COLLEGE COMMITTEE

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VICE-CHAIRMAN OF THE COLLEGE COMMITTEE

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TREASURER

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PROVOST

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O.B.E., M.A., D.LITT., D.U.

VICE-PROVOSTS

PROFESSOR H. BILLETT

B.SC.(ENG.), HON. R.C.N.C., C.ENG., M.I.MECH.E., A.F.R.AE.S.

PROFESSOR S. P. DATTA

B.SC., M.B., B.S.

SECRETARY

A. TATTERSALL, M.A.

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FOREWORD BY THE PROVOST

No one knows better than those who work in universities how disastrous galloping inflation is. Everything built up in the last twenty-five years is now shaken and showing signs of wear and tear. Inflation has flattened planning. So everyone in universities—except those who want to see the British system of government collapse—accepts the Government's attempts to impose salary and wage restraint. University teachers are reasonable people and they do not expect to be exempted from the country's lower standard of living or escape their share of privation. Why then has there never before been such bitterness of feeling in universities as there is today?

The reason is that academic staff believe that they have been deliberately singled out for unjust treatment. It is important to understand that they are not referring simply to the events of this year. Ten years ago British university teachers had better salaries than any in the western world, North America excepted. The Government, needing to expand the universities rapidly in the era of the Robbins Report, had awarded generous salaries in order to recruit academic staff. It was almost as if, once the canaries were trapped within the net, Government deliberately cut down their supply of seed.

For the process did not begin this year. It began in 1968 when the Report of the Prices and Incomes Board on academic salaries was implemented. That was the year when dons were told that their salaries were to be pegged to some notion of 'productivity' and when professors had to make do with a 2½ per cent salary award. From then on dons have had to watch their salaries steadily fall behind those of civil servants, judges, doctors and other professional classes. A professor used once to be on a par with an Under-Secretary; today an Under-Secretary gets 50 per cent more. A GP is paid twice as much as a university lecturer. Not only have the salaries of academic staff fallen far behind those with which they were once comparable; the gap between the salaries of those in education which were once below theirs has now decreased and in some cases has disappeared. One would expect senior posts in polytechnics to be paid more than a university lecturership, but they are now worth twice as much. The Houghton award to teachers in Further Education was treated by the Government as a special case. But when last winter the universities argued that the award made them a special case too, they were told that in no way under the

terms of the social contract could they have a rise, since they had already been awarded a characteristically mingy one in October 1973.

With the utmost difficulty, and only after going to arbitration, what was announced as the first part of a two-part settlement to remove the anomaly whereby university teachers were now paid less than their counterparts in the polytechnics was negotiated this spring. There followed a seven-week interval during which Government refused to discuss any of the proposals made to them for the second part of the award. In retrospect the delay seems to have been deliberate procrastination. The Department was awaiting the inevitable solution to the wage crisis which was being cooked up between the Government and the TUC, a solution which took the form of the £6 a week limit of pay increases. Wringing their hands, the DES explained that they were now powerless as the prisoners of Mr Foot and the White Paper. One-third or more of what university academic staff had won by the arbitration award was snatched from them; and this occurred when before the award was made the real value of dons' salaries had declined by 40 per cent. This must be a record for any comparable group.

Now, whenever tempers begin to boil, it is as well to make a superhuman effort and to see the other side of the case. An incomes policy, if it means anything, means that some groups in society will be judged by Government to be more or less important than their present ratio of pay suggests, and their remuneration will be adjusted accordingly. Late in the sixties, the Treasury regarded dons as being overpaid and determined to take them down a peg: and it is true that dons are less important to our society in a direct sense than judges or doctors or than top civil servants, who carry immense responsibilities. It is also true that the conditions of work which dons enjoy are extremely favourable—great job satisfaction, freedom to work on what one wants, freedom to live where one likes (no don can be directed to move to another university), loosely regulated hours, etc. (The job satisfaction, it may be noted, of a civil servant is no less: love of power is no less stimulating than the love of learning and the imparting of knowledge.) Dons earn more than the average and can sustain a loss better than old-age pensioners.

But academic staff resemble old-age pensioners in one respect. Their bargaining power is low. Inflation redistributes incomes between the different groups in society, and those which have the weakest bargaining power come off worst. (Indeed, perhaps one of the reasons why an incomes policy has had such marked lack of success is the failure of successive Governments to recognise that to

leave differentials exactly as they are neither rewards merit nor acknowledges power.) Consultants in hospitals have not hesitated to press their claims by industrial action: neither have schoolteachers. Yet the academic staff of universities have declined to do so, not merely because their threat of refusing to conduct first degree examinations is unimpressive, but because they acknowledge a duty to their students which is strengthened by the peculiarly personal nature of university teaching. And they are bitter because they feel that the State is exploiting that sense of duty.

Indeed one of the reasons for the moderation with which academic staff have behaved, while seeing the real value of their salaries decline so much faster than that of others, is their sympathy for Government in its attempt to contain inflation. But if certain trade unions wreck this attempt, then academic staff are very likely to join the ranks of those who take industrial action. Universities only narrowly avoided it during last examination season and, if it does come, it is more likely to take the form, not of refusing to mark university examinations (which was threatened this summer), but of sabotaging the whole GCE and UCCA arrangements. Government should recognise that the understanding and indeed loyalty of academic staff cannot be exploited limitlessly: and there are plenty of signs that this is not yet recognised.

The increase of student numbers is a case in point. The staff/student ratio in universities is now at 1:10—the very figure that the UGC asked them to work to during this quinquennium. It should not in present circumstances be driven higher and, if Government tries to do so, they will have a revolt on their hands. In University College we are cutting our establishments by 5 per cent between 1974 and 1977. The Deans and Heads of the academic and administrative departments have co-operated with wonderful understanding and good humour. Posts have been down-graded, postponement in the filling of others has been agreed, still others are to disappear indefinitely. This means that we are having to teach more students with fewer academic staff, and academic staff have fewer resources to conduct research. Meanwhile the funds available to Research Councils and other bodies are all being cut back, with the result that there are fewer technicians. Our welfare services have suffered. Faced with mounting deficits, and kitchens and serveries with inadequate facilities, we have had to close the most uneconomical of our refectories. They were the academic staff refectories. So improvements which were made only a few years ago have been withdrawn; and small creature comforts for staff and students alike are vanishing.

Government cannot simultaneously cut our salaries and worsen our working conditions and at the same time ask us to take yet more students.

Many sagacious people now say that higher education has been grotesquely over-expanded, just as only five years ago there were pundits telling us that a million students in full-time higher education were too few. However that may be, it is not the universities who have been at fault. The Robbins Report urged their expansion and both a Conservative and a Labour Government accepted that analysis. But the civil servants in the DES regarded Robbins as merely a battle lost. They refused to accept the Robbins scenario whereby institutions such as the Colleges of Advanced Technology moved out of the Department's orbit into the autonomous sector, leaving the Department with an ever decreasing sphere in higher education. To civil servants a battle may be lost, but the war never, and their riposte was the declaration of the binary principle and the creation of thirty-two polytechnics. Today there is simply not enough public money to fund, equip, build and expand what are now 80–90 university type institutions with full-time students. When universities are chivvied and chided by Government, they have the right to reply that many of the difficulties in which they find themselves are directly the making of Secretaries of State and the Department.

Many of the difficulties every institution faces today spring from the fact that we are living in a syndicalist State. Each institution, profession, industry or group states the case for favourable treatment, higher wages and greater investment in itself in the most extreme terms and supports its case with whatever sanctions it can threaten to use. None is prepared to give an inch to Government, and Government is at its wits ends to know how to contain the perpetual demands for more funds. To give an inch, not to fight one's corner to the last gasp, would be to give in not only to Government but to all the other competing groups, and it is assumed that the ground once lost would never be recovered. Ten years ago there was some disposition to engage in a rational discussion with Government about priorities, economies and the more rational use of resources. Indeed, as universities are peculiarly institutions which live by using reason, academic staff were not averse to engaging in discussions about the way they could best help to expand the numbers in higher education in the most effective way. Today rational discourse has been replaced by a chess-board. If Government moves a piece, universities consider whether the Sicilian or Caro-Kann defence is likely to be the more successful.

Two examples of such defensiveness come to mind. Government suggested that universities admitted too many graduate students. Immediately the Vice-Chancellors Committee asked Sir Derman Christopherson to prepare a memorandum showing why graduate studies should not be cut and how important it was that the flow of graduate students should be maintained. The Vice-Chancellor of Durham, aided by a weighty submission from University College, produced a masterly document. Only Lord Bowden argued that what the country needed at this juncture was not graduate students but more first degree students willing to go into productive industry, which alone can sustain the vast increase in employment in service occupations—education, social security, medical work, welfare, environmental services, etc—that has taken place in the last fifteen years.

The second case is that of student entry. There is no doubt that Government is seriously alarmed that one-third of our postgraduate students come from overseas. At the very time that Sir Michael Swann on behalf of the IUC has been asking what more universities can do to help developing countries, Government is asking whether in this country's desperate financial plight, we can afford to subsidise such students to the tune of £1,800 a head. Some of us have for years been urging that funds of the Overseas Development Ministry could not be better used than in reimbursing universities for such graduate teaching. Some of us are also alarmed that while exceedingly good graduate students from overseas enrol for the one-year M.Sc. courses which universities were urged to institute to help industry and business, yet these courses do not attract our own students who are going to enter, or who have entered, industry and business. We need overseas students and there can of course be no question of their elimination. But in my view universities cannot simultaneously demand that entry be unrestricted and the present fee remain unchanged. However reluctantly, universities all now charge a differential fee for overseas students. The differential should be widened, a very few special categories being possibly exempted.

This is all part of the pattern of entry. Universities are told that they ought to bring their admission of students into line with manpower requirements and make their courses more 'relevant', when all experience shows that manpower forecasts are less reliable than those of meteorologists. Yet if there were to be a long-term drift from science and engineering, or from the study of modern foreign languages, no Government could stand aside; and here again, although universities have long known of the drift, little has been done to arrest it.

The reason for that is simple. It is not in the universities where the effective decisions are made which determine how many boys and girls will study science or humanities. It is in the schools. The truth seems to be that universities have long since abdicated from control over the GCE examinations so that *de facto* control has passed to the school-teachers. Since the teachers have to prepare school children for the GCE examinations, this trend is understandable enough. But more recently, fewer university teachers have felt it important to exercise their influence on curriculum and examination development, although the majority of secondary school teachers would welcome such intervention with open arms. This may help to explain the vast proliferation of options and consequent fragmentation of the curriculum which has been in part accountable for movement away from the classical subjects in science and humanities.

There is, moreover, a new menace on the horizon. The latest proposal put forward by the Schools Council for discussion would abolish the separate 'O' level and 'CSE' examinations and substitute for them a single 16-plus examination system, with some emphasis on internal marking in each school. The timetable for discussion of this proposal is indecently short. Indeed the full nature of the evidence on the feasibility or otherwise of such a change will not be available to be analysed, either in the secondary schools or in the universities, by the time when they will be asked to give their views. That is deplorable when this matter is one of grave importance not only for universities but for all those who use the results of school examinations. It is also alarming that the Schools Council Working Party on Administration has not dismissed out of hand a proposal that the independent 16-plus boards should consist of local teachers, teacher politicians and LEA nominees, thus virtually excluding the universities and the polytechnics.

Is it in fact intended to rush through a proposal before it can be studied adequately, and then to inform the Secretary of State that as there is 'substantial' agreement and as the matter of sixth-form studies has been under scrutiny for years, the present plan should be implemented? Universities should beware. If 'O' levels disappear and the new 16-plus examinations take their place, then the financial structure of the GCE system will be called in question. It will be virtually impossible to finance 'A' levels of the quality which we now have. We may well find soon that instead of an internationally recognised school-leaving exam there will be no exams at all. The Committee of Vice-Chancellors should make it clear that, come hell or high water, there must be a university entrance exam.

Meanwhile there are all the signs that the University of London is about to embark on a decade or two of frustrating debate concerning its structure and governance. The paradox is that those who declare that they fear the emergence of centralising powers and stand for the autonomy of the constituent Schools and Colleges are the very people who are frustrating the reforms needed to enable the Senate House to give up many of its powers and devolve them to Schools. Also, paradoxically, those in the Schools who often shout loudest at the interference of the federal government are those who resist proposals from the Senate House to abolish federal departments and leave matters to the Schools. The main difficulty is that the University of London, unlike any other university, is subject to an Act of Parliament which not merely gave effect to the Hilton Young proposals, but (unlike the Oxford and Cambridge Act 1925) forbade any statutory change which could be interpreted as at variance with these proposals. Almost like the District of Columbia, i.e. the capital city, Washington, which is under the direct government of Congress, the University of London is under the direct control of Parliament. Instead of being able to petition the Queen in Council for an amendment to statute, our University has to obtain an enabling Bill before any change can be made to a Constitution set up half a century ago.

The University has had sombre experience in the past hundred years of the difficulties in making such changes. Government will tell the University that it must proceed by a private bill, and private bills are lucky to get parliamentary time and luckier still if they are not obstructed. There is every likelihood that this Bill would be opposed in one or other House of Parliament. If it is opposed and defeated, the next most likely demand will be for another inquiry into our affairs. But the next time it will not be by a committee set up by the UGC and the University. More likely it would be a highly politicised committee, probably with several people on it who think that it is high time that the University of London was broken up and that the whole of higher education in London was organised regionally. What the effect of such a new bureaucracy on academic standards would be is too depressing to contemplate.

December 1975 ANNAN, *Provost*

UGC Visitation

The College received a visitation from the University Grants Committee under their Chairman, Sir Frederick Dainton, on 19 February 1975. The usual series of meetings was arranged and papers prepared, and the members of the UGC were able to meet members of the College Committee and Professorial Board informally over lunch and dinner. The Committee also took the opportunity to tour parts of the site and to see for themselves some of our more pressing physical problems, including those affecting the Students' Union and the Todd UCRF Medical scheme.

At the concluding meeting between the UGC and the College Committee, attended by the Principal of the University and the Clerk of the Court, Sir Frederick Dainton summed up the impressions of the visitors. Although the discussions had naturally been dominated by the difficult financial situation and by the concern of the College about the uncertain future of the Todd redevelopment scheme, there was clearly a strong case on grounds of efficiency for the plan to integrate the medical schools of University College Hospital and the Royal Free Hospital with the College. The building plans, leading up to the incorporation of the pre-clinical departments of the RFHSM in additional accommodation for Medical Sciences, were regarded as sound and should proceed as and when finance allowed. The proposed decanting building in Bedford Way, a cornerstone of the development, still had the Committee's sympathy: if it were approved, the Committee would expect purposeful joint planning machinery between the College and the medical schools to come quickly into existence in order to make a reality of the enlarged Faculty of Medicine which was implicit in the scheme. (The College learned shortly after the visit that the UGC had included the Bedford Way building in their programme for 1975–76.)

Other points brought out in Sir Frederick Dainton's encouraging summary included the Committee's determination to regain 100 per cent supplementation to meet inflation of university costs; recognition of the need to improve conservation of the Flinders Petrie collection of antiquities pending rehousing of the Egyptological collections; the responsible approach to the College's problems shown by the student representatives and the cramped conditions under which the Union at present operated; the Committee's awareness of catering problems arising from the requirement that Refectories must not be subsidised from a recurrent grant voted by

Parliament for teaching and research; and the importance of the central relationship between student and teacher. In conclusion, the Chairman said that the Committee had found a College in good heart despite current difficulties. They saw University College as a unique and versatile institution, adaptable to meet any national need.

Development Policy Statement 1977–82

In common with other universities, the College will enter the new quinquennium handicapped by deficiencies in staffing and recurrent provision which will have built up over the hard years 1974–77. The College will try to maintain the quality of its undergraduate and postgraduate tuition and its research, and substantial capital and recurrent support will be needed. Plans for the quinquennium have been formulated on the assumption that the required level of funds will be forthcoming. No one will be surprised if it is seen that they are not.

The redevelopment of the Rectangle arising out of the Todd Report is a major objective, and the UGC has given it the highest priority among the Todd schemes in the University. Decanting space in the Bedford Way building for the Departments of Geography and Psychology is an essential preliminary. The second stage is the construction of the Gordon Street Wing. This must be completed before a site can be provided for the new Medical Sciences extension, and it will incidentally benefit Egyptology, the Library, and the Students' Union. As part of the redevelopment the College proposes by stages to rationalise the Chemistry Department's accommodation. The intention is to house the entire Department in and around the new Chemistry building, leaving the old building to be adapted for other departments whose student numbers are buoyant.

Forecasting student numbers, particularly undergraduate numbers, is an uncertain business. The College originally undertook to increase full-time equivalent (FTE) undergraduate numbers to 4,121 out of a total FTE target of 5,719 in the session 1976–77. The undergraduate target was set on the assumptions that the required resources and a continuing supply of qualified candidates would be available. Neither assumption has been fulfilled. So in September 1974, the UGC asked the College to re-examine the target in the light of the recent trend of applications and admissions, and we proposed a reduced FTE undergraduate total of 3,805 within a total student population of 5,400. We have ourselves assessed that demand will drop by about 8 per cent, an accurate reflection of the UGC's indication of

the national shortfall in undergraduate admissions. But it may well be that when 1976–77 comes the College will be between one and two hundred below the revised overall target.

In the next quinquennium (1977–82) the College hopes that the numbers of Arts-based undergraduates will proportionately increase. Even with the recent up-turn of science students in the schools we can hope only that the slow increase in Science-based numbers will continue. We have told the University that by 1981–82 we do not expect to have admitted more than 4,052 FTE undergraduates within a total of 5,650 students. This would be a 10 per cent increase above the 1974–75 population.

The College will have to plan to meet other needs than increased student numbers. We shall have to take over activities hitherto supported by outside funds, where there is an obligation to do so. In most cases such obligations were undertaken long ago when the financial climate was very different. Then we must try to find funds to expand those developments which have been particularly successful. We must also try to support those projects which are designed to help meet national needs, social and technological; and we must continue projects for which London has developed special responsibilities. But what chance have we of fulfilling all these needs when most academic staff would agree that the first need is to reinstate certain selected posts at present held in abeyance under the economy arrangements? It is these, so it is argued, which should have first call on new money.

In the statement of development policy the College has drawn attention also to priorities for central activities. Foremost among them is the Library. Every year it calls for its former level of expenditure to be restored to enable it to keep pace with the fall in the value of money. The severe constraints imposed on the Library by the pressures of inflation are referred to on p. 16. As the UGC themselves suggested on the occasion of their visit, a strong case has been put forward for substantial aid towards the conservation of our unique Egyptological collection (see also p. 23).

Finances

The Annual Report for 1973–74 anticipated the effect on College finances of the successive cuts made by the Government in December 1973 and January 1974. By October 1974 it was clear that if the College received no supplementation for inflation it could be running an annual deficit of over £400,000 at the end of the current financial year. The College Committee immediately took measures to restrict

expenditure in 1974–75 and outlined policies to alleviate the worst effects of the shortfall in funds. Economies were to be made in the College Administration, and methods had to be found of reducing the expenditure of academic departments on staff by about 5 per cent during the years 1975–77. These reductions were to be permanent. Short-term reductions were to be made in the provision for maintenance of buildings.

Cuts of this magnitude could have been grossly inequitable and have done lasting damage if they had been imposed according to a formula. The only way to economise was for each Faculty to identify precisely which posts and what expenditure could in the immediate future be curtailed in each Department. This called for goodwill and a common purpose among all Departments, and put a heavy burden on the Deans. After intensive work the Deans were able to report that they could contemplate a target of £365,000 per annum at October 1974 rates for reductions in staff establishments to be achieved by 1 August 1977. Departments were then asked to define the individual contributions to the overall target which would involve the least damage to academic commitments. In March 1975, following proposals made by Departments through the Deans for the suppression or downgrading of academic and technical staff posts that were expected to fall vacant through retirement or resignation up to 1977, the College Committee endorsed arrangements agreed by the Provost with the Deans for monitoring these economies. Agreed economies were to be kept under review by Deans in consultation with colleagues acting as a Faculty monitoring committee. Maximum flexibility was to be preserved by allowing substitutions giving a corresponding reduction. Requests to fill all vacant posts were to be made by Heads of Departments to Deans, who would seek the approval of the Provost. If necessary, the Provost would consult the Vacancies Committee, the final arbiter in cases of doubt. As at July 1975 the level of savings offered by Departments stood at £136,300 in 1974–75 rising to £268,975 in 1975–76.

The same axe fell upon the College Administration. By July 1975 savings of £40,000 in the year (within £5,000 of the 1977 target) had been achieved. Savings have been effected mainly in establishments, but a useful contribution has come from economies in other areas; for example, the adoption of second-class post as a norm. Savings on maintenance of buildings have amounted to £116,000, which exceeds the 5 per cent target. Much of this saving will have to be of a short-term nature if we are to avoid major deterioration in our buildings.

It had always been clear that the Government would have to come up with more financial aid unless universities were to go bankrupt. It was in March 1975, while arrangements for the economy programme were being completed, that it was announced that a Supplementary Grant of £548,000 had been allocated to the College. This sum was in addition to earlier 'relief' grants totalling £236,000. The UGC claimed that the total of the additional grants for 1974–75 approached 50 per cent of the full cost of inflation if the rate of inflation were to be about 20 per cent. In fact, it was somewhat less than the promised 50 per cent. The Supplementary Grant was accompanied by a warning that revised grants for 1975–76 and 1976–77 would be unlikely to enable universities to make good any substantial accumulated deficit at the end of 1974–75. It was therefore inevitable that the economies had to stand and no provision could be made for additional posts. But we were able to make good the previously anticipated deficit and to allocate £148,000 of the supplementary provision for 1974–75 to academic departments on the understanding that no part of this sum would be committed in a recurrent manner.

The College Library probably suffered more severely from inflation than any other area in the academic sphere, as a result of rapid rises in subscription rates, particularly those for foreign periodicals, and of the progressive devaluation of the pound. The Library had started 1974–75 with available resources some £38,000 less than had been spent in 1973–74. An allocation of £25,000, partly to restore the situation, was made from the sum of £148,000, and a further £20,000 was allocated for book purchase. Further, it was agreed that, contrary to normal College practice, any staff cost savings in excess of the target set under the economies programme could be transferred for recurrent use. Nonetheless, the Library continued to be beset by financial problems, and it is certain to have to cancel some periodicals.

The College's endeavours to maintain a reasonable degree of financial equilibrium in the year resulted in the achievement of a small surplus of £43,318 in relation to an income of the College for 1974–75 of £13,337,975, an increase of £2,467,329 over the income for 1973–74. Expenditure in 1974–75 was £13,294,657, inclusive of the cost of research borne by outside grants, which total £2,193,199 compared with £1,689,321 in 1973–74. The number of these grants was 530. Capital grants announced for the year amounted to £453,954 compared with £72,673 for the previous year. Receipts against these and previous capital grants and capital

expenditure amounted to £261,953 compared with £90,236 in 1973–74.

The Universities are charged with operating Student Accommodation and Refectory services as 'break-even' trading undertakings, a limited degree of subsidisation being strictly laid down by the UGC. Students of the College have greatly benefited over the years by the location of its halls of residence and by the dedication of their staff in meeting the demands imposed by heavy vacation bookings. The income from these sources has enabled the College to maintain student accommodation fees at a level substantially lower than that of most other universities in the country. But here again inflation has struck and hit this trading undertaking in no uncertain fashion. From total income of £535,000 in 1974–75 it has only been possible to set aside £10,000 to the general reserve which the College is endeavouring to rebuild for the acquisition of further accommodation. Even this result has only been made possible by economies which in earlier times would not have been contemplated, and the outlook cannot be regarded as any better.

The problems of the Refectory have been even greater. How can university refectories, trading mainly on a thirty-week year, break even in these days? The introduction of London Weighting for kitchen staff in April 1974 added substantially to the wages bill at a time when the cost of food was soaring. The pegging of prices in 1973 was, moreover, a decision which has had unfortunate consequences. At the end of the trading year 1973–74 the Refectory had an accumulated trading loss of over £22,000. In 1974–75 the deficit was a further £17,000, but because of the back-dating of the London Weighting award, the College agreed to bear £11,000 of this. At the end of the 1974–75 trading period the accumulated loss on the Refectory amounted to £29,000. Very serious as these losses are they are less than at most other comparable London Colleges, and indeed other universities. The new Management Committee are trying to make the Refectory accounts balance. But costs are continuing to rise, and this at a time when the Management Committee have had to shut the two staff refectories in order to prevent the deficit increasing even more steeply. As prices rise, so custom falls off: it is already apparent that more and more members of staff cannot afford to eat in the Refectory, and it is clear that if we are to retain their custom, sandwich and snack lunches will have to be provided.

Perhaps the worst loss of all is the sense that something more than a place where academic staff eat has vanished. Let us be clear: the staff refectory has not vanished entirely; an area in the upper

refectory remains which is used largely by academic staff. But it is true that a social centre in the College (which has all too few facilities for staff) is now closed. It is just that bit less easy than it was before to have planned or unplanned exchanges of views between people in different departments. The loss of these facilities, and the reorganisation which is only just beginning, is having a deeply depressing effect on the catering staff and academic staff alike; and matters are not improved by the Students' Union organising boycotts.

Building Programme

The College's newest building, Wates House, was completed at the end of November 1974 and the School of Environmental Studies moved in over the Christmas vacation. For the first time the whole of the School was brought together under one roof from its separate buildings, two of which (one in Tottenham Court Road and one in Flaxman House) have been given up, while the Bartlett Building was vacated ready for conversion. More than half of the cost of Wates House was met from a donation from the Wates Foundation, and at a ceremony on 17 March the building was opened by Mr (now Sir) Ronald Wates, Honorary Fellow of the College. The decision to go ahead with this project before funds had been secured to cover the complete cost has been amply justified by the rise in building costs since 1972. The College, however, has a debt burden of some £200,000 which will eventually have to be met.

A start was made on the conversion of the Bartlett Building, vacated by the School of Environmental Studies, and two houses in Taviton Street. These two projects are the first to be financed from the capital sum negotiated between the College and the UGC in 1972 for the redevelopment of the College Rectangle, under the Todd UCRF Medical scheme. They are intended to provide space for the activities which will be displaced by the first stage of the redevelopment.

After the bleak report last year, hopes of progress in this redevelopment were renewed when, following the visitation of the UGC to the College, we learned that the Committee had allocated funds for the Bedford Way building to start in the financial year 1975–76. This project will complete the Bedford Way frontage of the group of buildings commissioned by the University and designed by Mr Denys Lasdun for the Institute of Education and the School of Oriental and African Studies. The building will be fitted out inside to the requirements of the College's Departments of Psychology and Geography, which will be decanted there in order to give sufficient

room in the College Rectangle to allow the redevelopment programme to proceed. The College and the consultants are now working hard to get the job out to tender as soon as possible.

The substantial allocation by the UGC for Bedford Way, the largest project in the UGC's 1975–76 capital programme, has encouraged the Briefing Committee on College Redevelopment to re-examine the next phase of this redevelopment and to commission a feasibility study of the site now occupied by huts on the Gordon Street frontage.

The University has made available, and has converted for College use, three houses adjoining our present student houses at 6 Guilford Place and these will be brought into use, mainly as flats for postgraduate students, in October 1975.

As a result of investigations into ways of saving fuel, referred to in last year's report, and following a report by the Working Group on Fuel Economies, measures proposed by the College's consultants to improve the efficiency and flexibility of the College's heating systems are now being implemented. The first stage of this work to install new automatically controlled burners in the Central Boiler House has been completed at a cost of over £50,000, which will be recovered within a few years by the reduced fuel consumption resulting from more efficient combustion. The remaining work to complete the proposals involves the installation of additional controls in individual buildings. This second stage is now in hand.

Staffing Matters

During the year there have been developments in staff relations. The AUT Joint Staff Committee, which was set up last session, has been discussing a grievance procedure for academic and related staff. A procedure agreement was concluded with NUPE, which provided for the establishment of a new Manual Staffs Joint Committee, and a similar agreement in respect of clerical and related staff has been entered into with NALGO and a new Joint Committee set up. At the end of 1974 the University of London joined a consortium with other universities for the purpose of settlement of clerical staff salary scales. Negotiations are in hand to formalise the relationship between the College and its branch of ASTMS, but in the meantime an annual review procedure has been approved and is now in operation.

In matters of staff training: the new national agreement on probationary lecturers stimulated a discussion on the training and development of young academic staff; the Sub-Committee on the

Training of Teachers introduced an induction course which was attended by about thirty new academic staff; a new national agreement on Trainee Technicians led to the decision to set up a local Technical Staffs Training Advisory Sub-Committee with ASTMS; and the University established a Working Group to examine the question of non-academic staff training.

College Governance

Towards the end of the session, joint application was made by the University and the College for the granting of a Charter to University College. The College is at present incorporated into the University of London by an Act of Parliament of 1905, and the granting of a Charter would give it a legal entity of its own as a School of the University.

A review of the structure of committees in the College and of their constitutions and terms of reference has been undertaken during the past two years, and a report on these matters by a Working Party of the Committee on College Governance, under the chairmanship of Professor J. A. C. Thomas, was approved by the Professorial Board at the end of the session. The report will be considered by the College Committee early in 1975–76.

Student Numbers

Students registered at the College during the session numbered 5,653, an increase of 31 over the previous session. The total number of full-time undergraduates rose by 36 to 3,499, and the number admitted for the first time to first degree and first diploma courses increased by 24 to 1,295, in spite of a 4 per cent drop in the number of applications handled by UCCA during the normal application period. The total postgraduate population of 1,838 was virtually unchanged, but the number of part-time postgraduates, the majority of whom are carrying out research for the M.Phil. or Ph.D. Degree, continued to rise. The proportion of postgraduates attending taught courses (leading to a Master's Degree or a Diploma) continues to increase and now one half of our full-time postgraduates attend such courses.

The number of students living in halls of residence or other accommodation provided by the College or the University also continues to increase, and now over 44 per cent of full-time undergraduates enjoy these facilities; 23 per cent of the full-time undergraduates lived at home during the session and the remainder were in lodgings or flats.

Student Accommodation

In 1974–75 there was virtually no increase in the College's provision of residential accommodation for students. For the first time all residential places were allocated centrally under the control of the Assistant Secretary (Services and Establishments). This led to a much higher proportion of first-year undergraduates being accommodated than ever before, and closer contact with the Wardens of the University halls of residence produced an increase in the number of our students accommodated there.

Academic Matters

Five new undergraduate courses were introduced at the beginning of the session—the B.A. course in the field of Classics and Ancient History and B.Sc. courses in the following main fields of study: Astronomy and Physics, Genetics and Microbiology, Genetics and Zoology, and Medicinal Chemistry. From October 1974 students registering for the B.Sc. Degree in the University Faculty of Economics will proceed under the University-sponsored Course-Unit system. The B.Sc.(Eng.) Degree by course units was awarded for the first time to Engineering students graduating in August 1975. At the end of the session courses for the B.Sc.(Econ.) in Economics and International Relations and for the B.Sc. in International Relations ceased to exist at the College. Two new courses have been introduced at postgraduate level. The course in Computer Science leads to an M.Sc. and is currently taught on an intercollegiate basis with co-operation principally from Westfield College; and the course in Archive Administration leads to a College Certificate and is designed for applicants of graduate status from developing countries who wish to study modern methods of records management and record office management.

As an introduction to the subject of psychoanalysis, in which the Freud Memorial Visiting Professorship was endowed in 1972, public lectures and associated seminars were held during the session. Details are given in Appendix IV, p. 116. The first holder of the Freud Memorial Visiting Professorship will be Dr Roy Schafer, Professor of Psychiatric Psychology at Yale University, who will be taking up the appointment in October 1975.

In the Library, reference and information services have improved on the appointment of Dr R. G. Lester at the start of the session; an enquiry desk established in the Main Library is offering a valuable service; the introductory Library Guide has been redesigned and is being supplemented by a series of guidesheets; and a pro-

gramme of tuition in the use of the Library has been started in collaboration with subject specialists on the Library staff and the information service of the University of London. A detailed subject index to the Library's collections is being constructed and a co-ordinated system of signposts and notices for guiding within the Library is now working.

The Computer Centre continues to provide facilities for the College and the University. During the past year the disk storage has been more than doubled and some high density tape drives have been added. A major innovation has been the introduction of a terminal service on the IBM 360/65. Work funded by the Computer Board for Universities and Research Councils is in progress to establish a direct high speed link between the 360/65 and the computer complex at the University of London Computer Centre, which will give greatly improved access to all machines.

Four new Chairs were established at the beginning of the session—one in each of the departments of Hebrew and Jewish Studies, Spanish and Latin American Studies, and Scandinavian Studies, the only academic departments in the College at that time without established Chairs, and one as a third Chair in the Department of Political Economy, in order to maintain the number of professorial staff in that department (see also p. 28).

On the retirement of Professor H. Grüneberg at the end of last session the Department of Animal Genetics ceased to exist as a separate department and its activities and resources were joined with those of the Department of Human Genetics and Biometry from the beginning of the session 1974–75.

A list of publications of members of the College departments will be found on pp. 44–107. This is an impressive record and though no attempt is made here to summarise the research projects on which the departments have been engaged during the session, many of them have attracted substantial grants from Research Councils and other grant-giving bodies, which are gratefully acknowledged in Appendix XII.

Some ninety guests from various parts of England and Wales attended the ninth annual Schools Conference which was held from 24 to 26 March. This year for the first time the College welcomed a number of representatives of Colleges of Further Education in addition to the representatives of Schools and Local Education Authority Careers Offices who are normally invited, and the opportunity to make new friends and establish new contacts in this direction was also much appreciated. The arrangements themselves

consisted of plenary sessions in the Physics Theatre, visits by small groups to individual departments, and informal evening sessions in Ramsay Hall, in which visitors to the Conference were housed. This was a most enjoyable and rewarding occasion which was greatly valued on both sides.

The Seventy-ninth Foundation Oration was delivered by Professor Asa Briggs in the Collegiate Theatre on 10 March 1975. The subject of his oration was 'International Dimensions'.

College Collections

We have continued our conservation work on the College Collections, and are lucky in having now the full-time services of an active Curator in Mrs Mary Lightbown to look after these treasures, supported by Professor White. Necessary work on the Grote Collection of Old Master drawings, on the water colours (including the Turners), on the sculptures, and on Wilkins' plans of the College is complete; the Flaxman drawings are more than half done; and the rest of the prints and drawings are three-quarters finished. Work remains to be done on the pictures, the Flaxman plasters, and other items. We acknowledge once more, with gratitude, help from the Victoria and Albert Museum, the Courtauld Institute, the British Museum and other bodies. The Finance Committee has increased its grant for next year to £6,300.

A notable advance in the display in College of the material in the Collections has been achieved, through the very considerable generosity of the Friends, by the provision of secure and handsome frames permanently mounted in the Cloisters, in which a regularly-changing show can be maintained. The first show in the new frames includes a fascinating iconography of the College itself, to remind us of the heritage which Wilkins' building represents. Dirty as it is, it is our chief treasure.

A visit from the Standing Commission on Museums and Galleries, at about the time of the UGC Visitation, made us think further about the physical conditions in which our priceless Egyptological Collection is kept. It now seems that the new quarters, into which it is planned to move it, in the proposed Gordon Street Wing, will be postponed for some years; and we are therefore exploring ways of improving the environment in Foster Court and of preventing further deterioration. Professor H. S. Smith is promoting the necessary conservation work.

Association of Friends of University College London

During 1974–75 the Friends of University College authorised grants totalling £5,255 in support of the following projects: new exhibition frames in the Cloisters for the College Collection of Pictures and Prints (£600, additional grant); Sony Videorover portable camera/VTR system for the Audio-Visual Aids Centre (£278, additional grant); a new 'Four' for the University College and Hospital Boat Club (£500); alterations to the Faculty of Laws coffee bar to enable it to be used as a licensed bar (£250); shrubs, plants and trees for the area surrounding the changing rooms at the Shenley Athletic Ground (£500); the Day Nursery at 20 Taviton Street—mainly for the acquisition and improvement of a garden (£500); the Film Society's newsreels and kindred activities (£150); seven teak seats for the Main Quadrangle, each inscribed in memory of Helen Plumbly, Alumnus Secretary until her death in August 1974 (£302); replacement of the Music Society's third piano (£200); a camera for specialised work for the Photographic Society (£75); the Dramatic Society's production of 'America Hurrah' for the Edinburgh Festival (£250); the provision of seats, tables, shrubs and plants to make a roof garden over the Moot Room in the Department of Laws (£400); the renewal of the chairs in the Haldane Room (£1,000); a filmed tribute to Professor Sir William Coldstream on his retirement (£100); piano stools and music stands for the UC and UCH Chamber Music Club (£150).

Requests to the Friends for assistance have increased markedly in the year and inevitably included applications for the supplementation of earlier grants to offset the effects of inflation. It is self-evident that if the Friends are to continue to provide those improvements to the quality of life in the College which would otherwise be denied through lack of funds, the membership and subscriptions of the Association of Friends of UCL must be increased.

SUPPLEMENT

HONOURS AND DISTINCTIONS

In January 1975 an honorary K.B.E. was conferred on Professor A. D. Momigliano, Professor of Ancient History at the College, in recognition of his valuable services to British interests. In the New Year Honours E. G. Tuckwell, Serjeant-Surgeon to Her Majesty the Queen and a former student in the Faculty of Medical Sciences, was created a K.C.V.O., J. C. Nightingale, Chief Constable of the Essex Police, a former student in the Faculty of Arts, was created a Knight Bachelor, and the C.B. was conferred on E. V. Symons, Deputy Secretary at the Board of Inland Revenue, a former student in the Faculty of Arts. The C.B.E. was conferred on E. G. M'Ewen, Vice-Chairman (Engineering) of Joseph Lucas Ltd, Fellow of the College, and on the following former students: R. G. Grice of the Lake District Special Planning Board, Dr H. G. Hanley, Urologist at St Peter's Hospital, London, L. J. Lickorish, Director-General of the British Tourist Authority, E. B. Robinson, Deputy Chairman of Robinson and Sons Ltd, for services to export, and Professor H. C. Stewart, Deputy Director-General of the St John Ambulance Association and Brigade.

In the Queen's Birthday Honours the following were created Knights Bachelor: R. W. Wates, Honorary Fellow of the College, for charitable and philanthropic services, and Osbert Lancaster, Fellow of the College. The C.B. was conferred on W. Rudoe, Under-Secretary at the Department of Health and Social Security, a former student in the Faculty of Science, and the C.B.E. on W. G. Bor, Senior Lecturer in the School of Environmental Studies, W. J. Bray, Director of Research for the Post Office and Visiting Professor to the Department of Electronic and Electrical Engineering, Professor E. G. Turner, Professor of Papyrology at the College, and on the following former students: A. S. Aldis, Postgraduate Dean and Director of Postgraduate Medical Services, University Hospital of Wales, Professor J. C. McC. Browne, Professor of Obstetrics and Gynaecology at the Institute of Obstetrics, and Professor A. G. Mitchell, formerly Professor of English in the University of Sydney and at one time Honorary Research Associate in the Department of English Language and Literature, for services to education.

The Report for 1973–74 included the names and constituencies of those former students of the College who had been elected or

re-elected as Members of Parliament in the General Election of February 1974. In the second General Election of 1974 held in October, all of these former students were re-elected.

A number of interesting and important appointments were announced during the session. Appointments of members of the College included those of Master I. H. Jacob as Senior Master of the Supreme Court and Queen's Remembrancer, Professor Lord Lloyd as Queen's Counsel, Professor G. P. Goold as General Editor of the Loeb Classical Library, Professor L. C. B. Gower as a member of the Royal Commission on the Press, Professor Karl Miller as Associate Editor of *The New Review*, and Professor B. C. Vickery as Chairman of the British Library Advisory Committee for Lending Services. Dr A. H. Chilver, formerly Chadwick Professor of Civil Engineering at the College, was appointed Chairman of the Computer Board for Universities and Research Councils, and Sir John Gray, formerly Professor of Physiology, became Deputy Chairman of the Medical Research Council. Appointments of former students included those of Dr P. I. Agius as a member of the Advisory Council on Research and Development for Fuel and Power, M. F. Robertson as Deputy Director of the London and Home Counties Regional and Advisory Council for Technological Education, and B. Wolde-Gabriel as Ethiopian Vice-Minister for Public Works.

Professor Sir Bernard Katz and Professor Sir Harrie Massey were re-appointed Vice-Presidents of the Royal Society, and Dr Anne L. McLaren and Professor R. Wilson were elected to Fellowships of the Society, as were Dr P. C. Caldwell, a former member of staff in the Department of Biophysics, and Professor R. Mason, a former student and former honorary member of staff in the Department of Chemistry. Dame Veronica Wedgwood, Professor Randolph Quirk, and two former members of staff, Professor J. T. Coppock and Professor R. H. C. Davis, all became Fellows of the British Academy, as did two former students, Professor W. G. Beasley and Professor A. D. E. Cameron; while Professor M. W. Bloomfield, a former student and former honorary member of staff in the Department of English Language and Literature, was elected a Corresponding Fellow. Dr G. T. Martin was elected a Fellow of the Society of Antiquaries of London, Professor R. E. O. Williams and Professor F. V. Flynn, both Fellows of the College, were elected President and Vice-President respectively of the Royal College of Pathologists, and Lord Zuckerman, Fellow of the College, was appointed an Honorary Fellow of the Pharmaceutical Society of Great Britain

for 1975. Professor J. P. Quilliam, a former Physiology student, was admitted as a Fellow of the Royal College of Physicians of London.

Sir Peter Medawar and Sir Max Rayne, Honorary Fellows of the College, and the late Sir Walter Adams, Fellow of the College, were all elected Honorary Fellows of the London School of Economics. Professor V. Gold, Fellow of the College, was elected a Fellow of King's College, London, as was A. P. J. Edwards, a former student in the Faculty of Science. Professor W. Johnson, also a former Science student, was elected to a Professorial Fellowship at Fitzwilliam College, Cambridge.

Professor Sir Andrew Huxley was elected a member of the American Philosophical Society, and Professor E. G. Turner a Fellow of the Belgian Academy, a Foreign Member of the Historisk-Filosofiske Klasse of the Royal Danish Academy of Sciences and Letters, and a Corresponding Member of the Austrian Academy of Sciences. Dr M. W. Haslam was awarded a Junior Fellowship of the Center for Hellenic Studies, Washington.

Honorary degrees were conferred on members of the College as follows: the D.Univ. of the Open University on Professor E. H. S. Burhop, the D.Litt. of the University of Oxford on Osbert Lancaster, the M.D. of the University of Edinburgh on Professor G. F. Marrian, the D.Sc. of the Heriot-Watt University and of the University of Liverpool on Professor Sir Harrie Massey, the D.Sc. of the University of Bradford on Sir Mortimer Wheeler, and the LL.D. of the University of Glasgow on Emeritus Professor J. Z. Young. The Council for National Academic Awards conferred the honorary degree of D.Ed. on Professor Sir William Coldstream. Honorary degrees conferred on former members of the College included: the D.Sc. of the University of Durham on Emeritus Professor L. F. Bates, the D.Sc. of the Queen's University of Belfast on Professor H. Barcroft, the D.Litt. of the Loughborough University of Technology on Eileen H. Colwell, the D.Litt. of the University of Hull on Professor H. C. Darby, the D.Litt. of the University of Kent at Canterbury on L. G. Illingworth, the LL.D. of the University of Southampton on His Excellency President Manfred Lachs, the D.Sc. of the University of Bath on Emeritus Professor K. Mather, and the D.Sc. of the University of Aston in Birmingham on Dr T. D. Whittet.

Dr N. F. Dixon was awarded the University of London Carpenter Medal for research in psychology, Dr M. W. Haslam the British Academy Cromer Greek Prize for 1975, Emeritus Professor R. A. Humphreys the Machado de Assis Medal by the Brazilian Academy

of Letters, Professor R. G. Hopkinson and Professor N. F. Watson received jointly the Lighting Design Award of Distinction of the Illuminating Engineering Society (U.S.A.), Sir Laurence Kirwan, Fellow of the College, was awarded the Founder's Medal of the Royal Geographical Society, Professor A. D. Momigliano a Morris Kaplan Prize in History for 1975 by the Hebrew University of Jerusalem, Professor Elizabeth M. Wilkinson the Deutsche Akademie für Sprache und Dichtung 1975 foreign scholar prize, and Emeritus Professor J. Z. Young the Zoological Society of London Frink Medal for 1974. Professor Sir Ernst Gombrich, formerly Durning-Lawrence Professor of the History of Art at the College, was awarded the Erasmus Prize for 1975, and I. Newton, a former student and former member of staff, the President's Prize of the British Photogrammetric Society for 1975.

APPOINTMENTS

At the beginning of the session Professor M. L. McGlashan, formerly Professor of Physical Chemistry in the University of Exeter, came to the Chair of Chemistry and the Headship of the Department, and Karl Miller, formerly Editor of *The Listener*, was appointed Lord Northcliffe Professor of Modern English Literature and Joint Head of the Department of English Language and Literature. Professor G. Burnstock, formerly Professor of Zoology and Chairman of the Department in the University of Melbourne, was appointed from 1 April 1975 to the Chair of Anatomy and the Headship of the Department of Anatomy and Embryology, and P. D. Henderson, formerly Economist at the World Bank, came to the newly-established third Chair of Political Economy on 1 May 1975. Within the College there were appointments to three newly-established Chairs: C. Abramsky, Reader in Jewish History by conferment of title, was appointed to the Goldsmid Chair of Hebrew and Jewish Studies and the Headship of the Department; Professor J. S. Cummins took up the Chair of Hispanic Studies, having previously been Professor of Spanish by conferment of title; and Professor P. G. Foote, who had been Professor of Old Scandinavian by conferment of title and Head of the Department of Scandinavian Studies, was appointed to the Chair of Scandinavian Studies, and at the same time he and Professor D. M. Wilson became Joint Heads of the Department. Professor R. Miledi was appointed from 1 March 1975 to a Foulerton Research Professorship of the Royal Society; he remains at the College and continues to hold the title of Professor of Biophysics in the University. The University of London

conferred the title of Professor of Microbial Biochemistry on Dr Patricia H. Clarke.

The title of Reader was conferred on Dr L. M. Bethell (Hispanic American and Brazilian History), Dr F. W. Bullock (Physics), J. M. Dodgson (English), Dr P. J. Garratt (Chemistry), Dr M. D. Johnson (Chemistry), Dr Annette C. M. Lavers (French), Dr C. Vita-Finzi (Geography), and Dr K. E. Webster (Anatomy).

The following Visiting Professors were appointed during the session: G. Bellavitis, Banister Fletcher Lecturer (Environmental Studies); Professor Meyer Fortes, Fellow of King's College, Cambridge (Anthropology); Professor D. O. Hebb, McGill University, Royal Society Visiting Professor (Psychology); Professor Jonna Louis-Jensen, Copenhagen University (Scandinavian Studies); Dr D. W. Packard, University of California at Los Angeles (Greek and Latin); M. O. Robins, Science Research Council (Physics and Astronomy); Professor D. Samuel, Weizmann Institute of Science, Rehovot, Israel (Zoology and Comparative Anatomy); Dr J. D. Sutherland, University of Edinburgh, formerly Medical Director of the Tavistock Clinic (Psychology); and Professor J. A. Willis, University of Western Australia (Latin and Greek).

Towards the end of 1974–75, Professor A. P. Mathias was appointed Dean of Students, in succession to Professor E. H. Brown, who had held the post since 1972. J. Andrews succeeded Professor D. C. Holland as Warden of Ifor Evans Hall and Max Rayne House, the post being re-designated Senior Warden, and A. J. Oakley replaced Dr M. D. Johnson as Warden of Max Rayne House; W. H. A. Larrett was appointed Warden of Ramsay Hall, in succession to Dr G. Hall, who had served as Warden for ten years since the opening of the hall in 1964. Dr J. W. Fox took over the duties of Schools Liaison Officer from M. W. Brown. Dr J. A. North became editor of *The Bulletin* in place of Dr J. G. Yates. H. W. Callaghan, Assistant Librarian, was appointed Deputy Librarian, with effect from 1 January 1975, in succession to Ian Angus.

There were a number of changes in College Faculty appointments: Professor W. R. Mead, Professor R. W. Rideout, and Professor J. W. Mullin became respectively Vice-Deans of the Faculties of Arts, Laws, and Engineering; Dr E. C. B. Hall-Craggs was appointed Sub-Dean of the Faculty of Medical Sciences; and Professor N. F. Watson and Professor R. G. Hopkinson became Dean and Vice-Dean respectively of the Faculty of Environmental Studies.

In the University of London Professor B. Cheng was elected

Dean of the Faculty of Laws, A. Tattersall was appointed to the office of Public Orator, and K. Garside, formerly Deputy Librarian in the College, was appointed Director of Central Library Services and Goldsmiths' Librarian.

During the year announcement was made of the following appointments of members of the College to academic posts outside the College: Lord Goodman as Master of University College, Oxford, Professor F. R. Stannard as Pro-Vice-Chancellor (Planning) in the Open University, Professor W. Beckerman to the official Tutorial Fellowship in Economics at Balliol College, Oxford, Dr G. P. G. Butler to the Chair of Modern Languages in the University of Bath, Dr R. U. Cooke to the Chair of Physical Geography at Bedford College, Dr P. N. Dilly to the Chair of Structural Biology at St George's Hospital Medical School, Dr E. C. B. Hall-Craggs as Professor of Anatomy at the University of Maryland School of Medicine, I. E. Tregarthen Jenkin as Principal of Camberwell School of Art and Crafts, Dr K. E. Webster to the Chair of Anatomy at King's College, London, J. H. Westergaard to the Chair of Sociological Studies in the University of Sheffield, and Dr D. Yudilevich to the Chair of Physiology at Queen Elizabeth College. Emeritus Professor Thorold Dickinson was appointed Visiting Professor of Film in the University of Surrey. The University of London conferred the title of Professor of Neurology on Dr P. K. Thomas, Royal Free Hospital School of Medicine. Ian Angus was appointed Librarian of King's College, London.

Appointments of the following former members of the academic staff and former students to academic posts outside the College were also announced: Professor J. V. Armitage as Principal-designate of a new Church of England College of Education in Durham, G. R. Batho to the Chair of Education in the University of Sheffield, Professor P. N. Campbell to the Courtauld Chair of Biochemistry at Middlesex Hospital Medical School, Professor P. Collinson as Professor of History in the University of Kent at Canterbury, Dr R. C. Floud to the Chair of Modern History at Birkbeck College, Professor J. D. Gillett as Pro-Vice-Chancellor of Brunel University, Dr J. B. Goddard to the Henry Daysh Chair of Regional Development Studies in the University of Newcastle upon Tyne, Dr M. W. Greaves to the Chair of Dermatology at the Institute of Dermatology, Dr Judith M. Greene as Professor of Psychology in the Open University, Dr Robert Holman as Professor of Social Administration in the University of Bath, Professor W. Johnson as Professor of Mechanics in the University of Cambridge, Dr W. R. A. Muntz as

Professor of Biology in the University of Stirling, Dr L. J. Newson as Professor of Child Development in the University of Nottingham, Professor I. C. Percival to the Chair of Applied Mathematics at Queen Mary College, Dr J. F. Pickering to the Chair of Industrial Economics at the University of Manchester Institute of Science and Technology, Dr G. W. Roderick as Director of Extra-Mural Studies in the University of Sheffield, with the title of Professor, Professor T. A. Sears to the Chair of Neurophysiology at the Institute of Neurology, and Dr D. P. Walker to the Chair of History of the Classical Tradition at the Warburg Institute.

The title of Professor was conferred by the University of London on Dr B. Holmes (Education), Institute of Education, Dr A. Howe (Physiology), Chelsea College, C. H. Peake (English), Queen Mary College, and J. S. Read (Comparative Law), School of Oriental and African Studies, by the University of Stirling on Dr J. Milnes Holden (Education), by the University of Reading on Dr D. Crystal (Linguistic Science), Dr Olwen H. Hufton (History), and Dr G. C. Lepschy (Italian), by the University of Keele on A. L. Rivet (Roman Provincial Studies), and by the University of Birmingham on Dr I. C. Whitfield (Neurocommunications). Dr I. G. Van Breda was appointed Reader in Astronomy in the University of St Andrews, and the title of Reader in Human Metabolism was conferred by the University of London on Dr D. C. Cusworth, University College Hospital Medical School.

RETIREMENTS

The retirement of Professor Sir William Coldstream deprives the College of a most distinguished and humane Head of Department. He studied at the Slade from 1926 to 1929, and in 1934 joined the General Post Office Film Unit as Art Director and Director of Documentary Films. In 1937, in association with Victor Pasmore and Claude Rogers, he founded the School of Drawing and Painting, Euston Road. After the war he taught at Camberwell School of Art and Crafts, becoming Head of the Department of Drawing and Painting there in 1948. Appointed as Slade Professor in 1949, he not only directed the Slade School through one of its most important and formative periods, but in addition took a leading part, internally, in the life of the College and, externally, in the field of national art-education. Under his guidance, and helped by personal qualities combining distinction as a painter with ability as an administrator, a wider range of style and activity was developed in the School. This was particularly so in the 1960s when provision was made for

wood and metal workshops, for photographic, electronic and screen printing facilities, and for courses in the Study of Film. A major change was also made at that time with the introduction of post-graduate courses, in response to the overall national need for their provision. With the distinguished staff of teachers that he gathered round him, the School quickly established a reputation as an outstanding centre for postgraduate work in Fine Art. Outside the College, under his leadership for many years as Chairman of the National Advisory Committee on Art Education, important and liberalising changes took place throughout the country. Among other public service he was a Trustee of the National Gallery and of the Tate Gallery. Within the College, he will be remembered especially as a wise contributor over many years to the deliberations of the Appointments and Promotion Committee and the Decorations and Gardens Committee, and as an invigorating Dean of the Faculty of Arts. He was elected a Fellow of the College in 1953.

Professor D. B. Fry was appointed as Assistant Lecturer in the Department of Phonetics in 1934. He became a Reader in 1948, and the title of Professor of Experimental Phonetics was conferred on him in 1958. Throughout his forty-one years in the Department (including twenty-one years as Head), his main interests lay in the development of the expanding field of experimental phonetics, while maintaining the Department's well-known teaching and research in the longer-established area of linguistic phonetics. As a result of his efforts, the experimental section of the Department is now recognised as one of the most active and successful in the world. His own research gained for him an international reputation as one of the leaders in the field. A new journal, *Language and Speech*, which he introduced in 1958 and edited from its inception, has proved a most important forum for scholarly discussion. Since the war, when he spent four years in charge of the Acoustics Laboratory of the R.A.F. Central Medical Establishment, his published work has reflected his concern with the problems involved in the education of the deaf. His contribution to the College was not, however, limited to his scholarly achievements. He was closely associated with a variety of the College's musical activities. In particular, his love of opera (recognised when he was appointed a Governor of the Sadler's Wells Foundation in 1966) and his accomplishment as a singer have been displayed in the concert versions of operas with which he has delighted the Old Students' Association in recent years. The latter Association was, however, only one of many College societies which benefited greatly from his interest and support. The College and

Professors' Dining Clubs in particular were made more successful and agreeable through his long-standing and unstinting activity on their behalf.

Professor Lord Llewelyn-Davies joined the College in 1960 to take up the Chair of Architecture and the Headship of the Bartlett School of Architecture. He came from the Nuffield Foundation, where he had been Director of the Division for Architectural Studies and where, under his chairmanship, the two books *Investigations into the Function and Design of Hospitals* and *The Design of Research Laboratories*, which laid much of the groundwork for architectural research in this country, were prepared. He took his first degree at Cambridge in Engineering, then studied architecture at the Ecole des Beaux Arts in Paris and at the Architectural Association School. Under his direction the Bartlett School greatly expanded and in 1970 the Departments of Architecture and Town Planning were merged to form the new School of Environmental Studies, of which he became the first Head. At the same time he transferred to the Chair of Urban Planning. He was created a Life Peer in 1963, first President of the World Society for Ekistics in 1965, Chairman of the Centre for Environmental Studies in 1967, and among his many professional appointments as an architect he was consultant to the Times Publishing Company for their new building in Printing House Square, to the Stock Exchange, and for the new building at the Tate Gallery. On the planning side he was appointed to prepare the master plans for Washington New Town, County Durham, and for the new town of Milton Keynes, and he has undertaken many foreign assignments, which have included recently the redevelopment of the centre of Teheran. During the past fifteen years he has served on many College committees and was the first Dean of the newly-created Faculty of Environmental Studies. Richard Llewelyn-Davies will be remembered in the main for his inspiring leadership of the School of Environmental Studies, which he carried out with great wit and charm.

Professor Sir Harrie Massey received his early university education at Melbourne, and then came to this country in 1929, to join the Cavendish as a research student during the Golden Age of Rutherford. After a subsequent period at Queen's University, Belfast, he came to University College in 1939 to take up the Goldsmid Chair of Applied Mathematics. In 1940 he was elected a Fellow of the Royal Society at the unusually early age of thirty-one. During the war, he served the Admiralty in a variety of ways, but primarily as Head of the Mine Design Department of H.M.S. *Vernon*. Later on he

joined the Manhattan Project in California as one of the contingent of British scientists who participated in the development of atomic weapons. It was typical of the College at the end of the war, that nobody seemed to think it strange that Massey filled the corridors of the Mathematics Department with atomic physics experiments. When E. N. da C. Andrade resigned from the Quain Chair of Physics in 1949, Sir Harrie was his natural successor. During Massey's long tenure of this Chair, he spared no effort to build up the Department of Physics from its relatively modest beginning, and the developments that ensued culminated in the union of the two Departments of Astronomy and Physics as a single department under his Headship after the retirement of C. W. Allen in 1972. Sir Harrie has not only found the time and energy to be the first chairman of the Council for Scientific Policy from 1964, to occupy the position of Vice-Provost of the College from 1969 to 1973, to be Secretary and Vice-President of the Royal Society since 1969, and to serve on numerous other bodies, but he has also managed to produce an unending stream of scientific papers, reference works and textbooks. In addition, practically all the research projects now being undertaken in the Department are the result of his direct initiative. His work has been recognised by a knighthood in 1960, the award by the Royal Society of the Hughes Medal in 1955 and the Royal Medal in 1958, and the conferment of a number of honorary degrees. Although the retirement of Sir Harrie is symbolic of the end of the era of *the compleat physicist*, we hope that he will be able to continue his long and fruitful association with the Department of Physics and Astronomy.

The retirement of Professor A. D. Momigliano ended, after nearly a quarter of a century, his notable tenure of the Chair of Ancient History. Arnaldo Momigliano taught from 1931 until 1938 in the Universities of Rome and Turin (of both of which he was a graduate); and when the Fascist laws deprived him of his Turin chair, he came, thanks to the Rockefeller Foundation and the Society for the Protection of Science and Learning, to Oxford, where he spent the years from 1939 to 1947. Then came four years first as Lecturer and then as Reader in Ancient History at Bristol, from where he came, in a distinguished succession to which he has added a unique lustre, to the Chair here. In him the College and the University of London have had among their senior members one of the outstanding historians of his generation, a dedicated scholar of immense range and vitality. His work, like his reputation and his authority, has been truly international—a fact of which his supernumerary posts

at Turin and at Pisa, and his visiting professorships at Chicago, the University of California, and Harvard are only the most notable evidences. Numerous honours from the world of learning (Professor Momigliano was elected a Fellow of the British Academy in 1954 and a Sozio Nazionale dei Lincei in 1961) were followed in the year of his retirement by the rare distinction of an honorary K.B.E. for his services to his adopted country. His colleagues here in many departments will join to their admiration for his scholarship affectionate recollections of a notable and wholly individual conversationalist; and it is gratifying to note that, just as in the University his seminars at the Warburg Institute are to continue, so he remains, as an Honorary Research Fellow in the Department of History, a member of the College community he has adorned as Professor.

Professor Georg Schwarzenberger, Professor of International Law, began his long career in the Faculty of Laws in 1938 as a Lecturer. In 1945 he became a Reader and in 1962 Professor of International Law. He was a Doctor of Law of Tübingen and a Ph.D. of this University. His contributions to the literature and teaching of International Law have been immense, and he has for many years enjoyed a high reputation as a leading scholar in his field. He is the author of many textbooks and monographs which are very widely consulted and used in institutions of higher learning in many countries. As co-editor of the *Library of World Affairs* and the *Year Book of World Affairs* he has played a considerable role in bringing material relevant to his subject to the attention of a wide public. His contribution to the work of the Department of Laws in this College was quite outstanding. Not only did he play a key role in keeping the Department alive during the difficult war years, but thereafter he was prominent among those who have helped to achieve its present flourishing state. He served in the Faculty as Sub-Dean and Tutor, as Vice-Dean, and as Dean, and he was responsible for the substantial growth of postgraduate studies which took place under his aegis. He was frequently invited to deliver lectures in universities abroad, and in 1955 gave the Grand Cours at The Hague Academy of International Law. Professor Schwarzenberger was one of the small group of German lawyers who came to this country as a result of the oppression of the Nazi regime. The Faculty of Laws can congratulate itself on having afforded a haven to so distinguished a scholar and teacher.

Professor Stephen Spender has achieved a certain effect of symmetry or circularity by attending University College School,

London, going from there to University College, Oxford, and occupying a Chair of English for the last five years at University College London. His connection with this College may be said to have begun a year before his arrival here in 1970—with his delivery of the Lord Northcliffe Lectures. Stephen Spender's career as a poet and critic is well known. His most recent publication is a study of Eliot in the Fontana Modern Masters series. Having edited a collection of essays in celebration of the poet Auden, he now means to co-operate with Edward Mendelson in producing a full-scale biography of Auden. On several occasions in recent years he has gone as a visiting professor to America, and he has lectured extensively there and in many other countries. In 1962 he was made a C.B.E. Stephen Spender is a man of wide interests and of formidable energies. To make matters worse, he is also a poet. Such a person might have been expected to stand in some sort of specialised or privileged relation to the college where he taught. But this was very far from being the case. One of several happy features of his time as Professor here was his evident enjoyment of his teaching role, and his involvement in the day-to-day work of the Department of English Language and Literature (for all that air of abstraction). His activities did not resemble those of the visiting professor of creative writing loosely attached to some department of English. He has been very productive as a writer during his five years at University College, but he has been no less productive as a teacher. He will be greatly missed.

Dr Jane Abercrombie, Reader in Architectural Education in the School of Environmental Studies, was first appointed at the College as a temporary Research Assistant in the Department of Anatomy and Embryology in 1947. She became an Honorary Research Associate soon afterwards and spent the next ten years working on the selection and recruitment of medical students under a grant from the Rockefeller Foundation. Her research during this period resulted in a number of papers published in *The Lancet* and in her book *The Anatomy of Judgment*, which still attracts considerable attention amongst those engaged in problems of education and space perception. After a five-year period as a Research Fellow in the Paediatric Research Unit at Guy's Hospital, during which time she was concerned with disorders of space perception in cerebral palsy, Dr Abercrombie returned to the College to work on the selection and education of architects. Apart from her considerable contribution to research, Jane Abercrombie is an outstanding teacher and in recent years has made a most important contribution towards the teaching

of architects to understand the process of perception and its relation to design and also to learn the skill of working in groups.

Dr Sarah B. Holt joined the then Department of Eugenics (now Human Genetics and Biometry) in 1934, under Professor R. A. Fisher, and has worked there ever since. When Professor L. S. Penrose became Galton Professor in 1945 she turned to dermatoglyphics (finger, hand and foot prints), and this has become her life's work, pursued with great care and accuracy. She has become a leading authority on the inheritance of ridge patterns—her book *The Genetics of Dermal Ridges*, is the standard book on the subject—and workers from many countries have come to her for advice. For a time she was President of the International Dermatoglyphics Association. In 1965 she was severely injured by a passing car, but despite this handicap she has continued her academic work with courage and determination, including travel (sometimes on her own) in Europe and America.

Miss Gertrude Keir, Senior Lecturer in the Department of Psychology, retired at the end of the session. Happily, she will be with us for a further two years as an Honorary Research Fellow developing tests of literacy and numeracy for use in the Prison Service. Before being appointed here as a part-time Lecturer in 1946, she spent nine years gaining practical experience as an educational/clinical psychologist. She became full-time in 1948 and has played an important role in our teaching ever since, especially as Senior Lecturer in charge of postgraduate professional training for educational psychologists. She has had a considerable influence on the development of educational psychology in this country, both because a high proportion of people in post have been trained by her and through her work on the Training Committee of the British Psychological Society. Her own special interest has been in the development of reading in children and especially in investigating the causes and treatment of backwardness in reading. Her series of reading books, and particularly the Adventures in Reading series for backward readers, are widely used in schools and have been translated into many languages. She has played an active part in the academic and social life of the College, and especially, as might be expected of an accomplished musician, in the work of the Chamber Music Club.

H. Kestelman retired after forty-two years' full-time service in the Department of Mathematics, as a Lecturer for sixteen years, as a Reader for twenty-six years, and as a tutor for nineteen years. Both the late Professor Davenport and Professor Rogers have expressed

their great indebtedness to him for his invaluable personal help while he was tutor. During his whole career he maintained his reputation as a teacher who could persuade his students to master more mathematics than could be reasonably expected and who could at the same time capture their lifelong affection. He obviously enjoyed his teaching, both of mathematicians, and of students and staff from other departments, and he was always ready to initiate and develop new courses; even in his last year of service he gave a new course on Mathematics related to Economics to the third-year mathematicians. He remains a Fellow of the College and an Honorary Research Fellow in the Department of Mathematics.

Miss Grace Rawlings retired from her part-time Lectureship in the Department of Psychology. She took up her part-time post with the Department in 1946 when she was appointed as educational psychologist in the Department of Psychological Medicine at University College Hospital. Ever since then she has given invaluable help to us in the training of educational psychologists. She has for many years been one of the leading figures in educational psychology in this country. She has been President of the British Psychological Society, is currently a member of its Council and of many of its standing committees, and has served on many Government committees. Her services to educational psychology have been recognised by the award to her of the O.B.E.

Other members of staff who retired included: C. A. R. Tayler (Laboratory Superintendent, Department of Physics and Astronomy), who joined the Department of Physics in 1925 and completed fifty years' service during the session; T. J. Collins (Laboratory Superintendent, Department of Chemistry), who served in the department for twenty-nine years; two members who completed twenty-five years' service—Miss Dorothy G. Ward (Senior Administrative Assistant, Committee Office) and Miss May R. Woodford (Administrative Assistant, Accounts Department); and Miss M. Joan Bodman (Telephone Supervisor) and Miss Mollie Kirk (Administrative Assistant, Department of Physiology), each of whom served for twenty-three years.

RESIGNATIONS

Sir Angus Paton, Fellow of the College, retired from membership of the College Committee at the end of the session. He has taken a most active part in the affairs of the College, not only as a member of the College Committee, which he joined in 1952, but also as a member of a wide range of standing committees, including the

Managing Committee and the Planning and Buildings Committee, both for sixteen years, the Fellows Committee, the Refectory Committee and the Shenley Property Committee. He has served on the Court of Discipline and as a Trustee of the Shenley Athletic Ground, and in 1955 he joined the appeal committee which was set up to direct the appeal for the New Engineering Building. For well over twenty years his wisdom, his professional standing, and his wide experience have made him a most valued member of our governing body. Also, at the end of the session, the Finance Committee lost the services of Mr H. S. K. Greenlees, who had been a member since 1971.

Professor W. Beckerman resigned from the Chair of Political Economy and the Headship of the Department to return to a Fellowship at Balliol College, Oxford, where he had been a Fellow before coming to University College in 1969. In the comparatively brief time he was here, there were several major changes in the degree courses taught in the Department, mainly in the direction of giving a greater emphasis to the Public Policy aspects of economics; in particular, a successful Master's degree course in Public Policy was introduced. In the undergraduate degree a similar change in emphasis was followed by a switch to a course-unit degree. While here Professor Beckerman worked and wrote on the Economics of Pollution as well as serving on the Royal Commission; he wrote and spoke extensively on the case for continued Economic Growth, playing a leading part in public controversies on the subject and being particularly scathing about some of the more naïve arguments of his opponents. He continued his long association with O.E.C.D., doing work on the economics of oil at the height of the crisis and taking a leading part in a large longer-term project on income distribution.

Professor M. G. Smith resigned at the end of the session from the Chair of Anthropology, which he took up in 1969. With his distinguished competence in sociology, jurisprudence and political science, his historical studies in Nigeria and his knowledge of Islam, as well as his achievements within anthropology, he was bound to have a dynamic effect. In these six years his energies greatly developed the work of the Department, increased its size and widened its outlook. Originally a graduate of this College, he became Research Assistant here in 1951 after fieldwork for his Ph.D. in Northern Nigeria. In 1952 he joined the staff of the Institute of Social and Economic Research in the University College of the West Indies and from there undertook further research in Nigeria

and in the Caribbean. He went to the University of California, Los Angeles, as Professor of Anthropology in 1961, and has probably a longer list of published research to his credit than any anthropologist of his generation. Apart from his work here in creating a broader and more flexible syllabus, he will be remembered for his ever-active concern for the problems of the students in his charge and for the high morale he inspired among them and in his staff.

OBITUARY

We record with regret the death during the year of a number of members and former members of the College. They included one Honorary Fellow and five Fellows.

The College learned with deep regret of the death of Professor N. A. Barnicot on 14 May 1975, following a long illness. After studying Zoology and Physiology at University College he obtained a first class honours degree in 1936, and in 1938 was appointed Assistant Lecturer in Zoology. His promotion to a lectureship in 1946 marked his move from the Department of Zoology and Comparative Anatomy to join the newly-founded Department of Anthropology under the late Professor Daryll Forde. There he made a distinguished contribution to the development of biological aspects of anthropology (human biology), which gained him a world-wide reputation. He was appointed Reader in 1952 and Professor of Physical Anthropology in 1960. He also taught in the Department of Anatomy and Embryology (1941–43), and in the Slade School (1948–56), and during the war he was engaged in Operational Research with Coastal Command (1943–45). In 1967 the Pitt-Rivers Memorial Medal was awarded to him for outstanding fieldwork in Africa and Europe, and in 1968 he was elected a Fellow of the College. Professor Barnicot was a wise, kindly and dignified man, full of dry humour and sound advice. But he did not suffer fools gladly and had little patience for the pretentious or arrogant. In his work, he showed unusually broad interests, with penetrating vision and a gift for innovation. He inspired others with his love for theoretical discussion and clarity in thought and word—particularly in his chosen field of human biology, whose autonomy he struggled to establish until the end of his life.

Sir John Neale, who died on 2 September 1975, belonged to that great generation of scholars and scientists who flourished at University College between the wars and on into the forties and fifties. Included among them, to mention only a few, were Chambers, Haldane, Andrade, Abercrombie, Elliott Smith, Willoughby, A. V.

Hill and Ingold. They were men whose fame extended well beyond London University but who, at the same time, gave to the College some of its characteristic features and preserved and enlarged its reputation in the world of learning. Neale himself took his bachelor's and master's degrees at Liverpool, the city of his birth; and he came to University College in 1919 as an assistant in the History Department. From then until his death in his eighty-fifth year his association was uninterrupted, apart from the period 1925–27 which he spent as Professor of Modern History at Manchester. He retired in 1956, but for many years after that he remained a familiar figure in the College and, until the last few years, actively participated (at the Institute of Historical Research) in his famous Tudor seminar for graduate students with which he had been associated for half a century. Knighted in 1954, the recipient of many honorary doctorates and of a celebrated Festschrift from his former students and colleagues, Sir John Neale was unquestionably the leading Elizabethan scholar of his day. His great distinction as a historian rests upon his outstanding biography of Elizabeth I and his magisterial parliamentary studies. But he is also remembered at the College for his work as Astor Professor and Head of the History Department for twenty-nine years, his vigorous participation in the affairs of the Professorial Board and for the wisdom and delight, as well as the fund of good humour and good fellowship, that he brought to its life and to the whole academic community. His publisher, Jonathan Cape Ltd, celebrated his eightieth birthday by endowing the annual Neale Lectureship in English History at University College, a singularly appropriate tribute which Neale deeply appreciated.

The Honorary Fellow who died during the year was Sir Sydney Barratt, formerly Chairman of Albright and Wilson Limited and of the Ramsay Memorial Fellowships Trust, a Pro-Chancellor of the University of Bath, and sometime Reader in Physical Chemistry at the College; and the other Fellows were Sir Walter Adams, lately Director of the London School of Economics and Political Science, formerly Principal of University College of Rhodesia and Nyasaland, and at one time a member of the staff of the Department of History; Major-General Sir Leslie Nicholls, formerly Chairman of Shipton Automation Limited, Cable and Wireless Limited, and other Companies, and in the Second World War Chief Signals Officer, Middle East Allied Forces Headquarters and British Army of the Rhine; and Professor C. L. Oakley, Emeritus Professor of Bacteriology in the University of Leeds.

Dr R. A. Willis, Lecturer in the Department of Anatomy and Embryology, died in a road accident on 20 January 1975, at the age of thirty-six, leaving a widow and three children. He was one of those rare people who was dedicated to help others. Trained as a physicist, he was invaluable in the Department in research and teaching in problems involving electron microscopy of the brain. At home in Old Windsor, he was one time chairman of the Parish Council and more recently elected to the County Council; the newspapers described him as a dynamo in local politics. Much of his time was spent in dealing with problems of deprived children and the housing of the aged. He is sadly missed in the Department.

David Thomas, Honorary Research Fellow in the Department of English Language and Literature and, from 1950 to 1972, Typographical Adviser to the College, died in a road accident in Spain on 31 March 1975. He served the College with great devotion for over twenty years and gave unsparing attention to our printing and publications. His scholarly interests combined with his aesthetic and technical expertise made him a valued member of the College community. To College printing he gave a new and elegant design.

Former members of the academic staff who died were Emeritus Professor M. E. Delafield, a former Engineering student, who was a part-time member of staff from 1920 to 1959, first in the Department of Hygiene and Public Health, of which he was Acting Head from 1924 to 1929, and subsequently in Civil and Municipal Engineering; W. A. Eden, a former student in Town Planning and part-time member of staff in the Department of Architecture from 1952 to 1960; Dr Helga S. Hacker, a former student in the Department of Zoology and Comparative Anatomy and a member of its staff during the period 1920–29, who, in spite of ill-health, devoted many years to the arrangement and annotation of the papers and letters of her father, the late Professor Karl Pearson; Professor H. A. Heilbronn, Professor of Mathematics in the University of Toronto, a member of staff of the Department of Mathematics from 1945 to 1946; Dr C. L. Henderson, a former student in the Department of Physics and a member of its staff from 1962 to 1971; Sir Julian Huxley, Honorary Research Associate in the Department of Zoology and Comparative Anatomy from 1955 to 1959; Sir Robert Robinson, Professor of Organic Chemistry at the College from 1928 to 1930 and Honorary Fellow of Magdalen College, Oxford; and V. S. Summerhayes, an international figure in the study of orchids, a former student in the Department of Botany and holder of the Quain Studentship from 1921 to 1924.

In the course of the year the College heard with regret of the death of several former students. Among these were Professor C. H. Alexandrowicz, formerly Professor of International Law in the University of Madras; Joel Cang, the author and journalist; Miss B. Marjorie Daunt, formerly Reader in English Language, Birkbeck College; Simon Elwes, the portrait painter; Professor B. Groom, formerly Professor of English, McMaster University, Canada; Lord Haden-Guest, translator and editor of scientific works; Lord Hailes, formerly Governor-General and Commander-in-Chief of the West Indies; Roger Hilton, the artist; Professor W. R. Matthews, Professor Emeritus of English, University of California at Los Angeles; V. K. Krishna Menon, the former Indian Minister for Defence; Bertram Nicholls, the landscape painter; Sir Henry Self, the distinguished civil servant; Miss Susie I. Tucker, formerly Reader in English Language, University of Bristol; Dr Margaret D. Whinney, authority on art; R. H. Wilenski, the artist and art critic; and Bryan Wynter, the artist.

PUBLICATIONS

BY MEMBERS OF COLLEGE DEPARTMENTS

1 AUGUST 1974—31 JULY 1975

FACULTY OF ARTS

ANTHROPOLOGY

BURNHAM, P. C., Ethnic correlates of differential fertility in Northern Cameroon. *Sub-fertility and Infertility in Africa*, ed. B. K. Adadevoh. Ibadan: Caxton Press, 39–42.

DOUGLAS, M. M., Food as an art form. *Studio: Internat. J. Modern Art* (September 1974), 83–8.

HUMPHREYS, S. C., The social structure of the ancient city. Pt. II. Kinship in Greek society, *c.* 800–300 B.C. *Annali della Scuola Normale Superiore di Pisa*, ser. III, IV (1974), 349–67.

The Jerusalem ship. *Internat. J. Nautical Archaeol.*, iii (1974), 309–10.

The Nothoi of Kynosarges. *J. Hellenic Studies*, 94 (1974), 88–95.

Classics and anthropology. *Didaskalos*, 4 (1974), 425–41.

'Transcendence' and intellectual rôles: the ancient Greek case. *Daedalus*, 104 (1974), 91–118.

Durkheim in 1972. *History and Theory*, 14 (1975), 233–42.

KUPER, A., Translator, *Antropologia y Antropologos: La escuela Britanica 1922–1972*. Barcelona: Editorial Anagrama, 281 pp.

The social structure of the Sotho-speaking peoples of Southern Africa. *Africa*, 45 (1975), 67–81, 139–49.

OLSON, T. R., Taxonomy of the Taung skull. *Nature, Lond.*, 252 (1974), 85–6.

CLASSICAL ARCHAEOLOGY

CORBETT, P. E., *Greek and Etruscan vases from Nostell Priory*. London: Christie, Manson & Woods. 1975. 40 pp. + 22 pls.

JOHNSTON, A. W., Trademarks on Greek vases. *Greece and Rome*, xxi (1974), 138–52.

Naukratis; more light, no ΣΌΝ? *Bull. Inst. Class. Stud.*, 21 (1974), 96–8.

Greece and Egypt; a knotty problem. *Antiquity*, xlix (1975), 125–8.

Sicilian notes; ⊢, ⊾, ⊾, ⊼ and the date of the Demareteion. *Zeitschrift für Papyrologie und Epigraphik*, 17 (1975), 153–6.

EGYPTOLOGY

ADAMS, B. (with Brill, R. H., Barnes, I. L.), Lead isotopes in some ancient Egyptian objects. *Recent Advances in Science and Technology of Materials*, 3 (1974), 9–27.

DIXON, D. M., Timber in ancient Egypt. *Commonwealth Forestry Rev.*, 53 (1974), 205–9.

MARTIN, G. T., The Egypt Exploration Society excavations in the Sacred Animal Necropolis at North Saqqara and the discovery of the papyri. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 248–9.

Excavations in the Sacred Animal Necropolis at North Saqqara, 1972–3: preliminary report. *J. Egyptian Arch.*, 60 (1974), 15–29, pls. II–VII, figs. 1–12.

Catalogue of Egyptian seals, scarabs, and signet rings, the property of His Grace the Duke of Northumberland. *Sotheby Sale Catalogue* (21 April 1975), 7–40 (with illusts.).

(with Davies, W. V.), Current research for higher degrees in Egyptology, Coptic, and related studies in the United Kingdom. *J. Egyptian Arch.*, 60 (1974), 261–3.

SMITH, H. S., *A Visit to Ancient Egypt: Life at Memphis and Saqqara*. Warminster: Aris & Phillips, 1974. 92 pp., 8 pls.

La mère d'Apis: Fouilles récentes de l'Egypt Exploration Society à Saqqara-Nord. *Bull. de la Société Française d'Égyptologie*, 70–71 (1974), 11–27, 4 pls.

The Demotic papyri: introductory. Demotic literary papyri and letters. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 256–9.

Raymond O. Faulkner: an appreciation. *J. Egyptian Arch.*, 60 (1974), 5–7.

The archives of the Sacred Animal Necropolis at North Saqqara. A progress report. *Ibid.*, 256.

SPAULL, C. H. S., Bibliography of Raymond Oliver Faulkner. *J. Egyptian Arch.*, 60 (1974), 8–14.

UPHILL, E. P., Entries on Champollion and Mariette. *Encyclopedia of World Biography*. New York: McGraw-Hill, 1975.

ENGLISH LANGUAGE AND LITERATURE

DODGSON, J. McN. (with others), *John Dodgson of Saffron Crocus Valley. Look Stranger*. Television film, BBC 2 broadcast, 5 May 1975.

DUFFY, ANTONIA (with Byatt, A. S.), Review of Monique Wittig. *The Lesbian Body. The New Review*, 2 (1975), 65–6.

FENDER, S. A., What really happened to Warren Winslow? *J. Amer. Studies*, 7 (1973), 187–90.

GREENSLADE, B. D., Halifax and the Falkland circle (letter). *Times Lit. Suppl.*, 3821 (1975), 599.

The publication date of Hobbes's *Leviathan*. *Notes and Queries*, 7 (1975), 310.

MILLER, K. F. C., Empson Agonistes. *William Empson: The Man and his Work*, ed. Roma Gill. London: Routledge & Kegan Paul, 1974, 41–8.

Two articles on Gaelic literature in translation: Gael in Wonderland. *New York Review of Books*, xxii (1975), 31–4.

Within the pale. *Ibid.*, 40–1.

Reviews of the following:

Christopher Ricks, *Keats and Embarrassment*. *Ibid.*, xxi (1974), 35–7.

James Pope-Hennessy, *Robert Louis Stevenson*. *Ibid.*, xxii (1975), 16–18.

NEWALL, VENETIA, *The Encyclopedia of Witchcraft and Magic*. New York: Dial Press, 1974. ii + 192 pp.

General editor, *The Folklore of the British Isles*. Vol. 3, *Ireland*; Vol. 4, *The*

Cotswolds; Vol. 5, *Orkney and Shetland.* London: Batsford, 1974–75. 189, 208, 216 pp.

New needs for folklore research in England. *J. Folklore Inst.*, x (1974), 216–22.

The Allendale fire festival in its contemporary social setting. *Folklore*, 85 (1974), 93–103.

Black Britain: the Jamaicans and their folklore. *Ibid.*, 86 (1975), 25–41.

QUIRK, R., ADAMS, V., DAVY, D., *Old English Literature: A Practical Introduction.* London: Edward Arnold, 1975. 79 pp.

ROBERTS, T. P., *The Psychology of Tragic Drama* (Ideas and forms in English literature). London: Routledge & Kegan Paul, 1975. 244 pp.

WALKER, K., Review of John Wain, *Samuel Johnson. The New Review*, 1 (1974), 59–61.

SLADE SCHOOL OF FINE ART

SALT, BARRY, Statistical style analysis of motion pictures. *Film Quart.*, 28 (1974), 13–22.

THORPE, FRANCES, *A Directory of British Film and Television Libraries.* London: Slade School, 1975.

FRENCH LANGUAGE AND LITERATURE

BAKER, FELICITY, La scène du lac dans *La Nouvelle Héloïse. Le Préromantisme: hypothèque ou hypothèse? Colloque de Clermont-Ferrand 29–30 juin 1972.* Paris: Klincksieck, 1975, 129–52.

CALDER, A., Notes on the meaning and form of Marceline Desbordes-Valmore's 'Les roses de Saadi'. *Modern Languages Rev.*, 70 (1975), 71–4.

JONES, SHIRLEY E., Vues sur Cythère: Watteau et la critique romantique au dix-huitième siècle. *Revue des Sciences Humaines.* Lille, 1975.

LAVERS, ANNETTE, In a context for paranoia. On Jacques Lacan. *Times Lit. Suppl.*, 3827 (1975), 797.

SCREECH, M. A., Rabelais: *Pantagrueline Prognostication pour l'An 1533.* Avec *Les Almanachs pour les ans 1533, 1535 et 1541. La grande et vraye Pronostication nouvelle de 1544.* Textes établis, avec introduction, commentaires, appendices et glossaires par M. A. Screech assisté par Gwyneth Tootill, Anne Reeve, Martine Morin, Sally North et Stephen Bamforth. Paris/Geneva: Droz, 1974. 179 pp.

Rabelais: *Le Tiers Livre* (new corrected ed.). Paris/Geneva: Droz S.A., 1974. xxix + 354 + 117 pp.

Joachim Du Bellay: *Les Regrets et autres œuvres poëtiques. Les Antiquitez de Rome. Plus un Songe ou Vision sur le mesme sujet.* (Nouvelle édition, corrigée et augmentée). Paris/Geneva: Droz S.A., 1975. xli + 345 pp.

Rabelais: *Encyclopedia Britannica*, 15th ed. 1974.

TANCOCK, L. W., Reflections on the Sequel to *Le Paysan parvenu. Studies in Eighteenth-Century French Literature presented to Robert Niklaus*, ed. J. H. Fox, M. H. Waddicor, and D. A. Watts. University of Exeter, 1975, 257–68.

TYSON, DIANA, La Vie du Prince Noir by Chandos Herald. Edited from the manuscript in the University of London Library. *Beihefte zur Zeitschrift für romanische Philologie*, 147 (1975).

WOLEDGE, B., *Bibliographie des romans et nouvelles en prose française antérieurs à 1500.* Geneva: Droz, 1975. 181 pp. (Reprint of 1954 ed.)

Bibliographie des romans et nouvelles en prose française antérieurs à 1500. Supplément 1954–1973. Geneva: Droz, 1975. 139 pp.

GEOGRAPHY

ADAMS, J. G. U., Saturation planning. *Town and Country Planning*, 42 (1974), 550–4.
Obsolete economics. *Ecologist*, 4 (1974), 280–8.
Concorde: wondering where to go. *Geog. Mag.*, 46 (1974), 6.

BENNETT, R. J., Process identification for time series modelling in urban and regional planning. *Regional Studies*, 8 (1974), 157–74.
Warrington: problems for the future? *North-west Industrial Rev.*, 7 (1975), 12.

BROWN, E. H., The quaternary terraces of the River Thames. *L'évolution Quaternaire des Bassins Fluviaux de la Mer du Nord Mériodionale*, ed. P. Macar. Liège: Société Géologique de Belgique, 1974, 241–51.
The content and relationships of physical geography. *Geog. J.*, 141 (1975), 35–48.

CARTER, F. W., Č-K-D employees, Prague 1871–1920: some aspects of their geographical distribution. *J. Hist. Geog.*, 1 (1975), 69–97.
Bulgaria's new towns. *Geography*, 60 (1975), 133–6.

CARTER, F. W., FRENCH, R. A., New era in Slovenia. *Geog. Mag.*, 48 (1975), 556–60.

CLOUT, H. D., *The Franco-Belgian Border Region. Problem Regions of Europe.* Oxford University Press, 1975. 48 pp.
Reclamation of wasteland in Brittany 1750–1900. *Tijdschrift Koninklijk Aardrijkskundig Genootschap van Antwerpen*, 84 (1973–4), 29–60.
Agricultural plot consolidation in the Auvergne region of central France. *Norsk Geografisk Tidsskrift*, 28 (1974), 181–94.
Brittany—the road to regional revival? *Town and Country Planning*, 42 (1974), 369–72.
Population changes in the Auvergne region of central France 1954–68. *Erdkunde*, 28 (1974), 246–59.
Les Appalaches: une région américaine en crise. *Annales de Géographie*, 83 (1974), 420–40.
L'héritage de la production cotonnière en Géorgie, U.S.A. *Norois*, 21 (1974), 585–605.
Résidences secondaires dans le Royaume Uni. *Ibid.*, 623–6.
La belle France. *Geog. Mag.*, 47 (1975), 302–9.
(with Phillips, A. D. M.), L'évolution agricole dans le departement du Puy-de-Dôme pendant la deuxième moitié du 19e siècle. *Acta Geographica (Paris)*, 16–17 (1974), 103–20.

COOKE, R. U., The rainfall context of arroyo initiation in southern Arizona. *Zeit. für Geormorph., Suppl.*, 21 (1974), 63–75.
(with Crofts, R. S.), Landscape evaluation: a comparison of techniques. *University College Department of Geography Occasional Paper*, 25 (1974), 33 pp.
(with Doornkamp, J. C.), *Geomorphology in Environmental Management.* Oxford University Press, 1974. 413 pp.

GILBERT, A. G., *Latin American Development: A Geographical Perspective.* Harmondsworth, Middlesex: Penguin Books, 1974. 366 pp.
Growth poles—the instant solution to regional problems? *Proc. Commission*

on Regional Aspects of Development of the International Geographical Union, vol. I. *Methodology and Case Studies*, ed. R. S. Thoman. Toronto: Allister, 1974, 111–28.
Urban growth and industrial development: the Colombian case. *Ibid.*, vol. I. *Methodology and Case Studies*, ed. R. S. Thoman. Toronto: Allister, 1974, 425–72.
The spatial allocation of education and health facilities in a less developed nation. *Ibid.*, vol. II. *Spatial Aspects of the Development Process*, ed. F. M. Helleiner and W. Stöhr. Toronto: Allister, 1974, 307–42.
A note on the incidence of development in the vicinity of a growth centre. *Regional Studies*, 9 (1975).

HARRIS, D. R., Tropical vegetation: an outline and some misconceptions. *Geography*, 59 (1974), 240–50.

HARRISON, C. M. (with Frenkel, R. E.), An assessment of the usefulness of phytosociological and numerical classificatory methods for the community biogeographer. *J. Biogeography*, 1 (1974), 27–56.

KIRKBY, A. V., Individual and community response to rainfall variability in Oaxaca, Mexico. *Natural Hazards: Local, National and Global*, ed. G. F. White. Oxford University Press, 1974, (ch. xv).
(with Burton, I., Kates, R. W.), Geography. *Interdisciplinary Environmental Approaches*, ed. A. Utton and D. Henning. Educational Media Press, 1974, 100–26.
(with Kirkby, M. J.), Geomorphic processes and the surface survey of archaeological sites in semi-arid areas. *Geoarchaeology*, ed. M. Shackley. London: Duckworth, 1975.
(with Kirkby, M. J.), Surface wash at the semi-arid break in slope. *Zeitschrift für geomorphologie, Suppl.*, 21 (1974), 151–76.

LOWENTHAL, DAVID, The nature of the tangible past. *Bloomsbury Geographer*, 7 (1974), 3–11.
Past time, present place: landscape and memory. *Geog. Rev.*, 65 (1975), 1–36.

MANNERS, G., *Methods of Regional Intervention*. Unit 13, course on *Regional Analysis and Development*. Milton Keynes: The Open University, 1974. 46 pp.
(with McDivitt, J. F.), *Minerals and Men*. Baltimore: Johns Hopkins University Press, for Resources for the Future Inc., 1974. 175 pp.

MEAD, W. R., An atlas of settlement in sixteenth-century Finland. *J. Hist. Geog.*, 1 (1975), 17–20.
(with Jaatinen, Stig), *The Åland Islands*. London: David & Charles, 1975. 183 pp.

MINGIONE, E. (with Braghin, P., Trivellato, P.), Per una analisi della struttura di classe dell' Italia contemporanea. *Critica Sociologica*, 30 (1974), 69–116.

MORRISON, W. I., SMITH, D., *Simulating the Urban Economy*. London: Pion, 1975.

MUNTON, R. J. C. (with Goldsmith, B. G.), The ecological impact of recreation. *Recreational Geography*, ed. P. Lavery. Newton Abbot: David & Charles, 1974, 259–69.
(with Rees, J.), *Resource Management Register*. London: Social Science Research Council, 1975. 51 pp.

MUNTON, R. J. C., CLOUT, H. D., The geographical implications of changing patterns of personal mobility for the spatial organisation of central places in rural Norfolk. *Urbanisation in Europe*, ed. B. Sarfalvi. Budapest: Akademiai Kiado, 1974, 167–81.

PRINCE, HUGH, Fernand Braundel and total history. *J. Hist. Geog.*, 1 (1975), 103–6.

SALT, J., WOOD, P. A. (with Johnson, J. H.), Housing and the geographical mobility of labour in England and Wales: some theoretical considerations. *People on the Move*, ed. L. A. Kosinski and R. M. Prothero. London: Methuen, 1975, 91–101 (ch. VI).

VITA-FINZI, C., Related territories and alluvial sediments. *Palaeoeconomy*, ed. E. S. Higgs. Cambridge University Press, 1975, 225–31.

WESTERGAARD, J. H. (with Weyman, A., Wiles, P.), *Modern British Society: a bibliography*. London: Frances Pinter, 1974. 131 pp.

GERMAN

BUTLER, G. P. G., Letters from an old hand. *Times Lit. Suppl.*, 3791 (1974), 1238.

Two paths across the language frontier. *Ibid.*, 3792 (1974), 1262.

The tortuous road from A to A. *Ibid.*, 3800 (1975), 4.

Three German dictionaries under scrutiny. *The Incorporated Linguist*, 14 (1975), 42–3.

CRICK, JOYCE, The chronicler and the poet: Michael Hamburger at 50. *Poetry Nation*, iii (1974), 102–8.

SCHWARZ, W., Humanism and language. *Literature and Western Civilization*, vol. 3, ed. D. Daiches and A. Thorlby. London: Aldous, 1974, 39–70.

Discussions on the origin of the Septuagint. *Studies in the Septuagint: Origines, Recensions, and Interpretations*, ed. Sidney Jellicoe. New York: Library of Biblical Studies, 1973, 110–37. (Reprint of ch. II of *Principles and Problems of Biblical Translation*. Cambridge University Press, 1955 and 1970.)

A study of pre-Christian symbolism: Philo, De Somniis, I, 216–18, and Plutarch, De Iside et Osiride, 4 and 77. *Bull. Inst. Class. Studies*, 20 (1973), 104–17.

STERN, J. P., *Hitler: the Führer and the People*. London: Fontana; Berkeley and Los Angeles: University of California Press, 1975. 254 pp.

History and Allegory in Thomas Mann's 'Doktor Faustus'. Inaugural Lecture, University College London: H. K. Lewis, 1975. 23 pp.

The man without ideology. *The New Review*, 1 (1974), 5–13, 78.

The law of the trial. *Ibid.*, 37–44.

Lichtenberg's language games. *Ibid.*, 31–8.

Creativity in the arts. *Cambridge Rev.*, 96 (1975), 66–72.

Über oder eigentlich gegen eine Begriffsbestimmung des literarischen Realismus. *Literatur und Kritik*, 91 (1975), 24–33.

Mann in his time. *Times Lit. Suppl.*, 3822 (1975), 621–3.

STEVENS, A. K., Die *Wiener Genesis* in ihrem Verhältnis zur Tradition der christlichen Rhetorik. *Studien zur frühmittelhochdeutschen Literatur*, ed. L. P. Johnson, H.-H. Steinhoff and R. A. Wisbey. Berlin: Erich Schmidt Verlag, 1974, 151–9.

STILLMARK, A., Stifter's early portraits of the artist. Stages in the growth of an aesthetic. *Forum for Modern Language Studies*, xi (1975), 142–64.

WILKINSON, E. M., Theologischer Stoff und dichterischer Gehalt in Fausts sogenanntem Credo. *Goethes Faust I*, ed. W. Keller. Darmstadt: Wissenschaftliche Buchgesellschaft, 1974, 551–71.

On teaching prescribed texts. Further to the 'Form-Content' problem. *J. Modern Language Assoc.*, lv (1974), 105–16.

(with Willoughby, L. A.), *Goethe: Dichter und Denker*. Stuttgart: Athenäum Verlag, 1974. 323 pp.

(with Willoughby, L. A.), Missing links or whatever happened to Weimar Classicism? *Festschrift for C. P. Magill, Erfahrung und Überlieferung*, ed. Hinrich Siefken and Alan Robinson. Cardiff: University of Wales Press, 1974, 57–74.

(with Willoughby, L. A.), Der Blinde und der Dichter. Der junge Goethe auf der Suche nach der Form. *Goethe Jahrbuch*, 91 (1974), 33–57.

GREEK

COCKLE, W. E. H., The odes of Epagathus the choral flautist: some documentary evidence for dramatic representation in Roman Egypt. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 59–65, pl. xv.

Review of H. C. Youtie, *Scriptiunculae I. J. Hellenic Studies*, 94 (1974), 210–11.

COLES, R. A., New documentary papyri from the Fayûm. *J. Juristic Papyrology*, 18 (1974), 177–87.

Prosopographical lists: a brief note. *Zeitschrift für Papyrologie und Epigraphik*, 16 (1975), 278.

HANDLEY, E. W., Some new fragments of Greek Comedy. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 133–48, pls. xvi–xix.

HASLAM, M. W., Phoenician women decapitated. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 161–6.

HOOKER, J. T., Reviews of the following:

J. G. P. Best, *Some Preliminary Remarks on the Decipherment of Linear A. J. Hellenic Studies*, 94 (1974), 207–8.

P. Faure, *La Vie Quotidienne en Crète. Ibid.*, 226–7.

HORSFALL, N. M., Aeschylus and the Strymon. *Hermes*, 102 (1974), 503–5.

Classical studies in England, 1810–1825. *Greek, Roman and Byzantine Studies*, 15 (1974), 449–77.

REA, J. R., Editions of 42 Greek papyri (P. Oxy. 3088–3094, 3097–3129, 3143 and 3145). *The Oxyrhyncus Papyri*, vol. XLIII, ed. P. J. Parsons, J. R. Rea and E. G. Turner. London: Egypt Exploration Society, 1975.

P.S.I. IV 310 and imperial bullion purchases. *Chronique d'Égypte*, 49 (1974), 163–74.

Notes on Menander's *Perikeiromene. Zeitschrift für Papyrologie und Epigraphik*, 16 (1975), 125–32.

Review of *Michigan Papyri*, vols IX and XI. *J. Egyptian Arch.*, 60 (1974), 292–7.

SEDLEY, D. N., Epicurus, *On Nature*, book xi (P. Herc. 1042), fr. 1 col. iii: an argument against Eudoxan astronomy. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 269–75.

TSEKOURAKIS, D., Studies in the terminology of early Stoic ethics. *Hermes: Einzelschriften*, Heft 32 (1974), xiv + 140 pp.

TURNER, E. G., I libri nell'Atene del v e iv secolo a.c. *Libri, editori e pubblico nel mondo antico*, ed. G. Cavallo. Rome: Universale Laterza, 1975, 5–24 (notes on pp. 135–40).

The Greek papyri from Saqqara. *Proc. XIV Int. Congr. Papyrologists, Oxford, 24–31 July 1974*. London: Egypt Exploration Society, 1975, 250–1.
Early papyrus codices of large size. *Ibid.*, 309–12.
A commander-in-chief's order from Saqqara. *J. Egyptian Arch.*, 60 (1974), 239–42.
Oxyrhynchus and Rome. *Harvard Studies in Classical Philology*, 79 (1975), 1–24.
Review of P. M. Fraser, *Ptolemaic Alexandria. J. Egyptian Arch.*, 60 (1974), 290–2.

HEBREW AND JEWISH STUDIES

ABRAMSKY, C., Editor, *Essays in Honour of E. H. Carr*. London: Macmillan, 1974, viii + 374 pp.
Tribute to E. H. Carr. *Essays in Honour of E. H. Carr*, ed. C. Abramsky. London: Macmillan, 1974, vii + viii.
A people that shall dwell alone. *New York Review of Books*, 12 (1974), 19–24.
The anarchists of Whitechapel. *Times Lit. Suppl.*, (1975), 694–5.
History of Zionism in Russia. *Soviet Jewish Affairs*, 5 (1975), 107–9.
WIESENBERG, E., Tov Shem Tov mish-Shemen (Hebrew) = A good reputation is better than oil. *Niv Ham-midrashia*, 11 (1974), 210–22.

HISTORY

BLAKEMORE, H., Twenty-seven articles in *Encyclopaedia of Latin America*, ed. Helen Delpar. New York and London: McGraw Hill, 1974.
Chile. Current realities and historical perspectives. *Bank of London and South America Rev.*, 9 (1975), 1–8.
The new opportunities. *Venezuela Now* (1975), 10–14.
BROOKE, ROSALIND, Contributor to *La 'Questione Francescana' dal Sabatier ad oggi: Atti del I Convegno Internazionale*. Assisi: Società Internazionale di Studi Francescani, 1974, 220–4.
St Bonaventure as Minister General. *S. Bonaventura francescano: Atti del XIV Convegno di Studi sulla Spiritualità Medievale* (1974), 77–105.
Brief report on some work in progress in the British Isles. *Miscellanea Historiae Ecclesiasticae*, v (1974), 407–10.
BURNS, J. H., Bentham's critique of political fallacies. *Jeremy Bentham: Ten Critical Essays*, ed. B. Parekh. London: Frank Cass, 1974, 154–67.
CHRISTIE, I. R., The family origins of George Rex of Knysna. *Notes and Queries*, n.s., 22 (1975), 18–23.
Review of Joseph Albert Ernst, *Money and Politics in America. A Study in the Currency Act of 1764 and the Political Economy of Revolution. English Historical Rev.*, xc (1975), 139–42.
COOKSON, J. E., *Lord Liverpool's Administration, 1815–22*. Edinburgh and London: Scottish Academic Press, 1975. xiii + 422 pp.
DAVIES, R. R., Cymru yn Oes Dafydd ap Gwilym. *Taliesin*, xxviii (1975), 1–23.
Colonial Wales. *Past and Present*, lxv (1975), 3–23.
HARTE, N. B., Herbert Heaton, 1890–1973: a biographical note and a bibliography. *Textile History*, v (1974), 7–13.

On Rees's *Cyclopaedia* as a source for the history of the textile industries in the early nineteenth century. *Ibid.*, 119–27.
Editor, *The Study of Economic History*. London: Cass Paperback, 1975. xxxix + 390 pp.
(with Harte, Eva), Editor and translator, George Grüll, The Poneggen hosiery enterprise, 1763–1818: a study of Austrian mercantilism. *Textile History*, v (1974), 38–79.
(with Ponting, K. G.), A review of periodical literature on textile history published in 1972. *Ibid.*, 152–6.

HARTE, N. B., TIERNEY, D. J., List of publications on the economic and social history of Great Britain and Ireland published in 1973. *Economic History Rev.*, 2nd ser., xxvii (1974), 632–77.

HURSTFIELD, J., *The Historian as Moralist: Reflections on the Study of Tudor England*. London: Athlone Press, 1975. 37 pp.
The Crown's corrupter. *Times Lit. Suppl.*, 3815 (1975), 420–1.

ISRAEL, J. I., *Race, Class and Politics in Colonial Mexico, 1610–1670*. London: O.U.P., 1975. xiii + 305 pp.
The Portuguese in seventeenth-century Mexico. *Jahrbuch für Geschichte von Staat, Wirtschaft und Gesellschaft Lateinamerikas*, 11 (1974), 12–32.

JOHNSON, D. W. J., A community of historians? *European Community* (October 1974), 20–1.
The loneliness of the external examiner. *Times Higher Ed. Suppl.* (15 November 1974), 1283.
A tale of two affairs. *Ibid.* (13 December 1974), 1413.
Certain ideas of France. *Ibid.* (27 December 1974), 1468–9.
Robespierre in the round. *Ibid.* (7 February 1975), 127–8.
Birth of an historical personage. *Ibid.* (14 March 1975), 280.
Caricatures of capitalism. *Ibid.* (21 March 1975), 296.
Language and the future of Europe. *European Community* (April 1975), 16–17.
De sociale en politike problemen van Frankrijk rond 1900. *Vier Machten rond Duitsland*, 4 (1975), 77–83.
(with Mettam, R. C.), *French History and Society: The Wars of Religion to the Fifth Republic*. London: Methuen, 1975. 168 pp.

JONES, M. A., The background to emigration from Great Britain in the nineteenth century. *Perspectives in American History*, vii (1973), 3–92.

MOMIGLIANO, A. D., *Quinto Contributo alla Storia degli Studi Classici e del Mondo Antico*, 2 vols. Roma: Edizioni di Storia e Letteratura, 1975. 1050 pp.
Introduzione Bibliografica alla Storia Greca fino a Socrate. Firenze: La Nuova Italia, 1975. 186 pp.
La portata storica dei Vaticini sul settimo re nel terzo libro degli oracoli sibillini. *Forma Futuri, Studi in Onore del Cardinale Michele Pellegrino*. Torino: Bottega d'Erasmo, 1975, 1077–84.
Polibio, posidonio d l'imperialismo romano. *Actes du IXe Congrès Association G. Budé*. Paris: Belles Lettres, 1975, 184–94.
Reprint of two essays on Greek historians. *Erodoto-Tucidide Senofonte*, ed. L. Canfora. Milano: Mursia, 1975, 85–92; 133–7.
Historicism revisited. *Meded. Koninkl. Nederlandse Akademie*, xxxvii (1974), 63–70.
The fault of the Greeks. *Daedalus*, 104 (1975), 9–20.
The second book of the Maccabees. *Classical Philology*, lxx (1975), 81–8.

The lonely historian Ammianus Marcellinus. *Annali Scuola Normale Superiore Pisa*, v (1975), 1393–1408.
Le regole del Giuoco nello studio della storia antica. *Ibid.*, 1183–92.
Machon and the symbola. *Athenaeum*, liii (1975), 171–2.
Jews in classical scholarship. *Encyclopaedia Judaica Year Book* (1974), 223–5.
Reviews of the following:
A. E. Housman, *Classical Papers. Athenaeum*, lii (1974), 368–71.
R. MacMullen, *Roman Social Relations. Rivista Storica Italiana*, lxxxvi (1974), 405–7.
S. Bertelli, *Ribelli, Libertini e Ortodossi nella storiografia Barocca. Ibid.*, 591–4.
M. Cano, *L'autorità della storia profana. Ibid.*, 770–2.
D. P. Jordan, *Gibbon and his Roman Empire. English Historical Rev.*, xc (1975), 205.
G. Scholem, *Sabbatai Sevi, the mystical Messiah. Jewish J. Sociology* (1975), 73–6.

MOMIGLIANO, A. D., HUMPHREYS, SARAH C., The social structure of the ancient city. *Annali Scuola Normale Superiore Pisa*, iv (1974), 334–67.

MORRIS, J. R., Modern India and ancient Europe. *The Ancient Historian and his Materials. Essays in honour of C. E. Stevens*, ed. Barbara Levick. Farnborough: Gregg International, 1975, 229–41.
Editor, *Domesday Book*. Text and parallel transl. vol. 3 *Surrey*, vol. 11 *Middlesex*, vol. 19 *Huntingdonshire*. Chichester: Phillimore, 1975. 112, 76, 92 pp.

PEARL, VALERIE, Editor-in-chief, *The London Journal, a Review of Metropolitan Society Past and Present*. London: Longmans, 1975 (continuing series).
Review of J. S. Morrill, *Cheshire 1630–1660, County Government and Society during the 'English Revolution'. Times Lit. Suppl.*, 3781 (1975), 900.

SWART, K. W., The Black Legend during the Eighty Years War. *Britain and the Netherlands*, vol. v, ed. J. S. Bromley and E. H. Kossmann. The Hague: Nijhoff, 1975, 36–57.
Survey of recent historical works on the Netherlands. *Acta Historiae Neerlandicae*, viii (1975), 187–96.

TAYLOR, A. J. P., *The Second World War: An Illustrated History*. London: Hamish Hamilton, 1975. 240 pp.

TYACKE, N. R. N., An unnoticed work by Samuel Rawson Gardiner. *Bull. Inst. Historical Res.*, xlviii (1974), 244–5.

WRIGHT, E., Editor, *A Tug of Loyalties: Anglo-American Relations 1765–85*. London: Athlone Press, 1975. 92 pp.
An artisan of revolution. *History Today*, xxv (1975), 401–9.

HISTORY OF ART

HOWARD, DEBORAH, Two notes on Jacopo Sansovino. *Architectura* (1974), 132–45.

WEBSTER, MARY, The eighteenth century. *The Genius of British Painting*, ed. David Piper. London: Weidenfeld & Nicolson, 1975, 145–97.
Early British sporting paintings. *The Antique Collector*, xlv (1974), 44–8.
(with others), *British Sporting Painting 1650–1850*. London: Arts Council of Great Britain, 1974. (Catalogue.)

WESTON, HELEN, Prud'hon: justice and vengeance. *The Burlington Mag.*, cxvii (1975), 353–62.

ITALIAN

HALE, J. R., The Renaissance label. *Background to the English Renaissance*, ed. J. B. Trapp. London: Gray-Mills, 1974, 31–42.

From peacetime establishment to fighting machine: the Venetian army and the war of Cyprus and Lepanto. *Il Mediterraneo nella seconda Metà del '500 alla Luce di Lepanto*. Florence: Leo S. Olschki, 1974, 163–84.

To fortify or not to fortify? Machiavelli's contribution to a Renaissance debate. *Essays in honour of John Humphreys Whitfield*, ed. H. C. Davis *et al.* London: St George's Press, 1975, 99–119.

The housing problem of Venice. *Architectural Conservation in Europe*, ed. Sherban Cantacuzino. London: Architectural Press, 1975, 26–30.

Military academies on the Venetian terraferma in the early seventeenth century. *Studi Veneziani*, xv (1973, publ. 1974), 273–95.

Florence—the fifth element. *The Listener*, 92 (1974), 462–5.

LEPSCHY, A. L., Review of *Culture regionali e letteratura nazionale: Atti del VII Congresso dell' Associazione Internazionale per gli studi di lingua e di letteratura italiana. Modern Language Rev.*, 70 (1975), 642–3.

LINDON, J. M. A., A 'warmhearted, highminded' friend of Ugo Foscolo and an unnoticed obituary of the poet. *Italian Studies*, 30 (1975), 69–85.

LATIN

GOOLD, G. P., *Interpreting Catullus*. Inaugural Lecture, University College London: H. K. Lewis, 1974. 24 pp.

HORSFALL, N. M., Dido in the light of history. *Proc. Virgil Soc.*, 13 (1973–74), 1–13.

The Ides of March: some new problems. *Greece and Rome*, 21 (1974), 191–9.

Reviews of the following:

M. Geymonat (editor), *Vergili Opera. J. Roman Studies*, 64 (1974), 273–4.

R. D. Williams (editor), *Aeneid 7–12. Ibid.*, 274–6.

SCHOOL OF LIBRARY, ARCHIVE, AND INFORMATION STUDIES

BELL, L., The new Public Record Office at Kew. *J. Soc. Arch.*, 3 (1974).

(with Roper, M.), Editors, An archivist's co-operative? *Proc. Seminar on Automatic Data Processing in Archives. J. Soc. Arch.*, 4 (1975).

BROOKES, B. C., A sampling theorem for finite discrete distributions. *J. Documentation*, 31 (1975), 26–35.

FOSKETT, D. J., *Classification and Indexing in Social Science* (2nd ed.). London: Butterworths, 1975.

Survey of training programmes in information and library science. *Bull. Libraries*, 29 (1975), 23–32.

ROBERTSON, S. E. (with Teathers, D.), Statistical analysis of retrieval tests: a Bayesian approach. *J. Documentation*, 30 (1974), 273–82.

(with Thomas, P. A.), A computer simulation model of library operations. *Ibid.*, 31 (1975), 1–18.

STAVELEY, R., Research student and supervision. *Introductory Guide to*

Research in Library and Information Studies in the U.K., ed. P. L. Ward, J. Burkett, and P. Whiteman. London: Library Association, 1975, 36–41 (ch. v).

Reflections on Japanese proposals for reform of library and information services. *Mita J. Lib. Inf. Sci.*, xii (1974), 51–5.

Information and library studies in Japan. *Inforasia*, I (1974), 1–6.

VICKERY, B. C., *Classification and Indexing in Science*. London: Butterworths, 1975.

Ranganathan's contribution to indexing. *S. R. Ranganathan 1892–1972*. London: Library Association, 1974.

The organization of the distribution of scientific and technical information. *Essays on Information and Libraries, A Festschrift for Donald Urquhart*. London: Bingley, 1975.

Academic research in library and information studies. *J. Lib.*, 7 (1975), 153–60.

WATSON, A. G., The training of archivists in Great Britain. *Archives et Bibliotheques de Belgique*, 46 (1975), 214–26.

PHILOSOPHY

COHEN, G. A., Being, consciousness and rôles. *Essays in Honour of E. H. Carr*, ed. C. Abramsky. London: Macmillan, 1974, 82–101.

DYBIKOWSKI, J., Socrates, obedience and the law: Plato's *Crito*. *Dialogue* (Sept. 1974), 519–35.

Was Socrates as reasonable as Professor Vlastos? *Yale Review* (Winter 1975), 293–6.

Lord Devlin's morality and its enforcement. *Proc. Aristotelian Soc.*, lxxv (1974–5), 89–109.

HART, W. D., On utopia and unanimity. *Ethics*, 84 (1974), 243–7.

Innate ideas and a priori knowledge. *Innate Ideas*, ed. S. P. Stich. Berkeley, Los Angeles, and London: University of California Press, 1975, 107–9.

HONDERICH, TED, The use of the basic proposition of a theory of justice. *Mind*, lxxxiv (1975), 63–78.

The worth of J. S. Mill's *On Liberty*. *Political Studies*, xxii (1974), 463–70.

ISHIGURO, HIDÉ, Critical notice of M. Dummett, *Frege: Philosophy of Language*. *Philosophy*, 49 (1974), 438–42.

MCGINN, C., A note on the essence of natural kinds. *Analysis*, 35 (1975), 177–83.

WOLLHEIM, RICHARD, Editor, *Freud: A Collection of Critical Essays*. New York: Doubleday, 1974. xv + 416 pp.

Introduction; and identification and imagination. *Freud: A Collection of Critical Essays*, ed. Richard Wollheim. New York: Doubleday, 1974, ix–xv; 172–95.

Style now. *Concerning Contemporary Art: The Power Lectures 1968–1973*, ed. B. Smith. Oxford: Clarendon Press, 1975, 133–53.

(with Utley, T. E.), Concepts of equality. *Whatever Happened to Equality*, ed. J. Vaizey. London: British Broadcasting Corporation, 1975, 20–30.

PHONETICS AND LINGUISTICS

ABBERTON, EVELYN, FOURCIN, A. J., *American English Intonation: Audio-Visual Practice Materials*. London: Linguaphone Institute, 1975. 109 pp.

BALDWIN, J. R., A formal analysis of the intonation of modern colloquial Russian. *J. Int. Phonet. Ass.*, 4 (1974), 80–6.

FOURCIN, A. J., Laryngographic examination of vocal fold vibration. *Ventilatory and Phonatory Control Systems*, ed. B. D. Wyke. London: Oxford University Press, 1975, 315–33.

Speech perception in the absence of speech productive ability. *Language, Cognitive Deficits and Retardation*, ed. N. O'Connor. London: Butterworth, 1975, 33–43.

FRY, D. B., Phonetics in the twentieth century. *Current Trends in Linguistics*, vol. 12, *Linguistics and Adjacent Arts and Sciences*, ed. Thomas E. Sebeok. The Hague: Mouton, 1974, 2201–39.

An auditory theory of speech production. *World Papers in Phonetics*. Tokyo: Phonetic Society of Japan, 1974, 21–36.

Phoneme processing and lateral dominance for speech. *Grazer Ling. Stud.*, 2 (1975), 51–65.

Right ear advantage for speech presented monaurally. *Language and Speech*, 17 (1974), 142–51.

GIMSON, A. C., *A Practical Course of English Pronunciation*. London: Edward Arnold, 1975. viii + 80 pp.

HUDSON, R. A., A structural sketch of Beja. *African Lang. Stud.*, 15 (1974), 111–42.

Systemic generative grammar. *Linguistics*, 139 (1974), 5–42.

The meaning of questions. *Language*, 51 (1975), 1–31.

Problems in the analysis of ed-adjectives. *J. Ling.*, 11 (1975), 69–72.

PULLUM, G. K., Restating doubl-ing. *Glossa*, 8 (1974), 109–20.

Sheltering environments and negative contexts. *Edin. Work. Pap. Ling.*, 4 (1974), 31–41.

A note on coordination reduction and word order in Hindi. *Work. Pap. Ling. Universals*, 14 (1974), 95–101.

Lowth's grammar: a re-evaluation. *Linguistics*, 137 (1975), 63–78.

On a non-argument for the cycle in Turkish. *Ling. Inquiry*, 6 (1975), 494–501.

People deletion in English. *Ohio State Univ. Work. Pap. Ling.*, 18 (1975), 173–80.

On linguistically insignificant generalizations. *York Pap. Ling.*, 5 (1975), 97–110.

(with Radford, A.), On the applicability of raising. *Ibid.*, 181–4.

SMITH, N. V., Universal tendencies in the child's acquisition of phonology. *Language, Cognitive Deficits and Retardation*, ed. N. O'Connor. London: Butterworth, 1975, 47–65.

(with Morton, J.), Some ideas concerning the acquisition of phonology. *Colloques Internationaux du C.N.R.S.: Problèmes actuels en psycholinguistique*, 206 (1974), 161–77.

WASON, P. C., The psychology of deceptive problems. *New Scientist*, 63 (1974), 382–5.

(with Evans, J. St B. T.), Dual processes in reasoning? *Cognition*, 3 (1974), 42–50.

(with Golding, Evelyn), The language of inconsistency. *Brit. J. Psychol.*, 65 (1974), 537–46.

(with Golding, Evelyn, Reich, Shuli), Inter-hemispheric differences in problem solving. *Perception*, 3 (1974), 231–5.

(with Uren, O.), The semantics of semiotics. *New Society*, 32 (1974), 812–14.

WILSON, DEIRDRE, *Presuppositions and Non-Truth-Conditional Semantics*. London: Academic Press, 1975. ix + 161 pp.

POLITICAL ECONOMY

BECKERMAN, W., *Two Cheers for the Affluent Society*. Special U.S. edn of *In Defence of Economic Growth*. New York: St Martin's Press, 1975. 238 pp.
Economic and social costs of modernization and development. *Economic Growth in Developing Countries, Proc. 7th Rehovot Conf.* New York: Praeger, 1975, 112–25.
Economic growth and resources. *Corporate Planning and Procurement*, ed. D. H. Farmer and B. Taylor. London: Heinemann, 1975, 63–74.
The polluter-pays principle: interpretation and principles of application. *The Polluter Pays Principle*. Paris: O.E.C.D., 1975, 37–66.
The desirability of economic growth. *Economisk Debatt*, 2 (1973), 111–26 (in Swedish).
The myth of finite resources. *Business and Society Rev.* (Winter 1974), 21–6.
Nobel symposium: man, environment and resources. *Futures* (December 1974), 525–9.
Last straw or turning point. *Crisis '75* (1975), 58–68.
The fallacy of finite resources. *Bank of New South Wales Rev.* (March 1975), 10–15.
Requisitoire contre le Club de Rome. *L'Expansion* (March 1975), 106–12.

CATEPHORES, G. (with Morishima, M.), Is there an historical transformation problem? *Econ. J.*, lxxxv (1975), 309–28.

HENDERSON, P. D. (with others), *Economic Development of Yugoslavia. World Bank Report*. Baltimore: Johns Hopkins Press, 1975. xiv–490 pp.

HENRY, S. G. B. (with Desai, M. J.), Fiscal policy simulations and stabilisation policy. *Rev. Econ. Studies* (July 1975), 347–59.

LAL, D., *Appraising Foreign Investment in Developing Countries*. London: Heinemann Educational Books, 1975. xiv + 291 pp.
Guidelines for the social evaluation of alternative techniques for public works projects. *Sharing in Development—A Programme of Employment, Equity and Growth for the Philippines* (Special Paper No. 13). Geneva: I.L.O., 1974, 589–604.
Adjustments for trade distortions in project analysis. *J. Development Studies*, 2 (1974), 55–80.

RAU, N. J., *Trade Cycles, Theory and Evidence*. London: Macmillan, 1974, 96 pp.
Two-class neoclassical growth: a conjecture proved. *Quart. J. Econ.* (May 1975), 344–5.
(with Williamson, J.), Friedman on the theory of income adjustment. *J. Econ. Studies*, n.s., 1 (1974), 77–87.

SAWYER, M. C. (with Aaronovitch, S.), *Big Business: Concentration and Mergers in the United Kingdom; Some Empirical or Theoretical Considerations*. London: Macmillan, 1975. xiv + 337 pp.
(with Aaronovitch, S.), The concentration of British manufacturing. *Lloyds Bank Rev.*, 114 (1974), 14–23.
(with Aaronovitch, S.), Mergers, growth or concentration. *Oxford Economic Papers*, 27 (1975), 136–55.

VERRY, D. W. (with Layard, P. R. G.), Cost functions for University teaching and research. *Econ. J.* (March 1975), 55–74.

SCANDINAVIAN STUDIES

BARNES, M. P., *Draumkvædet. An edition and study*. Studia Norvegica 16. Oslo, Bergen, Tromsø: Universitets Forlag, 1974. 264 pp.

FOOTE, P. G., The audience and vogue of the Sagas of Icelanders. *Iceland and the Medieval World. Studies in honour of Ian Maxwell*, ed. J. Martin. Melbourne, 1974, 17–25 (published privately).

Secular attitudes in early Iceland. *Mediaeval Scandinavia*, 7 (1974), 32–44.

Transl. and annotation of *The Conversion of Iceland* by Dag Strömbäck. London: Viking Society for Northern Research, 1975. xii + 109 pp.

(with Bekker-Nielsen, Hans), Editors, *Influences on and Attitudes towards Early Icelandic-Norse Literature. A Symposium*. Odense University Press, 1974. 83 pp.

GRAHAM-CAMPBELL, J., A preliminary note on certain small finds of Viking-age date from the Udal excavations, North Uist. *Scottish Archaeol. Forum*, 6 (1974), 17–22.

A Viking-age gold hoard from Ireland. *Antiquaries J.*, 54 (1974), 269–72.

PERKINS, R. M., Norse implications in 'The Strange Case of The Vinland Map'. *Geog. J.*, 140 (1974), 199–205.

PETHERICK, KARIN, Linguistic stylistics. *Style*, ix (1974), 103–7.

STÖVERUD, T., Norwegian literature from the Reformation. *Year's Work in Modern Language Studies*, 35 (1974), 676–704.

WILSON, D. M., Men de ligger i London. *Skalk* (1974), 3–8.

SPANISH AND LATIN AMERICAN STUDIES

CUMMINS, J. S. (with Cushner, N. S. J.), Labor in the colonial Philippines: the 'Discurso parenético' of Gómez de Espinosa. *Philippine Studies*, xxii (1974), 117–203.

HARRIS, DEREK (with Maristany, Luis), Editor, Luis Cernuda, *Poesía Completa*. Barcelona: Barral Editores, 1974. 979 pp.

Cernuda y Guillén: fin de una correspondencia. Suplemento de *Insula*, 338 (1974), 21–2.

TORRENTS, NISSA, Latin American Studies, 19th century. *Year's Work in Modern Language Studies*, 35 (1974), 359–62.

El Escritor como marginado. *Camp de l'Arpa*, 9 (1974), 30–2.

Writers and exile. *Bull. Soc. Latin American Studies*, 22 (1975), 7–13.

FACULTY OF LAWS

BURTON, J. W., Functionalism and the resolution of conflict. *Functionalism: Theory and Practice in International Relations*, ed. A. J. R. Groom and P. Taylor. University of London Press, 1975, 238–49.

Alternatives to confrontation: North-South Korean Relations. *The Korean J. Int. Studies*, vi (1975), 11–16.

BUTLER, W. E., Editor, and transl., *Documents on Socialist International Organizations. Soviet Statutes and Decisions*, vol. XI. New York: International Arts and Sciences Press, 1974–5, 423 pp.

Transl. with intro., G. I. Tunkin, *Theory of International Law*. Cambridge, Mass.: Harvard University Press; London: Allen & Unwin, 1974. xxv + 497 pp.

Some reflections on the periodization of Soviet approaches to international law. *Contemporary Soviet Law: Essays in honor of John N. Hazard*, ed. D. D. Barry, W. E. Butler, and G. Ginsburgs. The Hague: Nijhoff, 1974, 213–25.

Soviet attitudes toward intervention. *Law and Civil War in the Modern World*, ed. J. N. Moore. Johns Hopkins University Press, 1974, 380–98.

The U.S.S.R. and the limits to national jurisdiction over the sea, 1970–72. *Limits to National Jurisdiction over the Sea*, ed. G. T. Yates and J. H. Young. Charlottesville: University Press of Virginia, 1974, 177–206.

P. P. Shafirov and the law of nations in petrine Russia. *Study Group on Eighteenth-Century Russia Newsletter*, ii (1974), 5–8.

Recent natural resource law in the U.S.S.R. *Earth Law*, i (1975), 70–2.

Res Naturae Internationalis: a review. *Ibid.*, 78–81.

Soviet continental shelf and anti-pollution legislation. *Int. & Comp. Law Quart.*, xxiv (1975), 130–6.

A selective bibliography of books in English on Soviet and East European legal systems since 1945. *ABSEES*, vi (1975), i–xvi.

(with Barry, D., Ginsburgs, G.), Editors, *Contemporary Soviet Law: Essays in honor of John N. Hazard*. The Hague: Nijhoff, 1974. xxvi + 242 pp.

DENNIS, I. H. (with Casson, D. B.), *Odgers on Pleading and Practice* (21st ed.). London: Stevens, 1975. 540 pp.

FREEMAN, E. (with Bridge, J. W., Lipstein, K.), *European Legislation 1952–1972*. London: Butterworths, 1975. (Also publ. as vol. 42A of *Halsbury's Statutes of England*.)

GALLIGAN, D., Bail procedures in magistrates courts. *Modern Law Rev.*, 38 (1975), 59–64.

GROOM, A. J. R., *British Thinking About Nuclear Weapons*. London: Frances Pinter, 1974, 640.

The functionalist approach and east-west co-operation in Europe. *J. Common Market Studies*, xiii (1975), 21–60.

Security by association: western Europe, the Arab world and the super powers. *Contemporary Rev.* (July 1975), 96–104.

(with Taylor, P.), Editors, *Functionalism: Theory and Practice in International Relations*. University of London Press, 1975. 360 pp.

IVAMY, E. R. H., *Marine Insurance* (2nd ed.). London: Butterworths, 1974. 599 pp.

Topham and Ivamy's Company Law (15th ed.). London: Butterworths, 1974. 555 pp.

General Principles of Insurance Law (3rd ed.). London: Butterworths, 1975. 646 pp.

Maritime law. *Ann. Survey of Commonwealth Law 1973*, ed. H. W. R. Wade. London: Butterworths, 1974, 359–75.

KORAH, V., *Competition Law of Britain and the Common Market* (foreword by Lord Diplock). London: Elek, 1975. xxvii + 311 pp.

Istituto Chemioterapico Italiano and Commercial Solvents Corp v. Commission of the European communities. Common Market Law Rev., 11 (1974), 248–72.

National patents and the free movement of goods within the Common Market. *Modern Law Rev.*, 38 (1975), 333.

Section editorials on Restrictive Trade Practices. *J. Business Law* (1974), 253–8, 330–9. *Ibid.* (1975), 56–60, 145–51.

LLOYD OF HAMPSTEAD, LORD, *The Idea of Law* (4th revised impression). London: Penguin, 1974. 363 pp.

MILLNER, M. A., The trespasser: two problems. *Current Legal Problems*, 27 (1974), 37–58.

PARKINSON, F., *Latin America, the Cold War, and the World Powers, 1945–1973*. Beverly Hills and London: Sage Publications, 1974. 288 pp. (Vol. 9 Sage Library of Social Research.)

RIDEOUT, R. W., Codes of practice and the law. *Safety in Universities Code of Practice—General Principles*, 1974.

The future of labour law. *I.M.S. Monitor*, 3 (1974), 37–42.

The place of legislation in labour law. *Current Legal Problems*, 27 (1974), 212–32.

The Employment Protection Bill. *Federation News*, 24 (1974), 126–39.

RYDER, E. C., Notes on cases on wills. *The Conveyancer and Property Lawyer*, 38 (1974), 442–4; 39 (1975), 71–3, 137–9.

SCHWARZENBERGER, G., International Law. *Encyclopædia Britannica* (15th ed.). Chicago: Benton, 1974. *Macropædia*, 9 (1974), 744–51.

The purposes of the United Nations in international judicial practice. *Israel Year Book of Human Rights*, 4 (1974), 11–47.

The United Nations system in international judicial perspective. *Cambrian Law Rev.*, 4 (1974), 61–71.

Civitas maxima? *Year Book of World Affairs*, 29 (1975), 337–68.

STEPHENS, D. J., Vicarious liability of the principal for the unauthorised conduct of his agent. *Current Legal Problems*, 27 (1974), 59–75.

THOMAS, J. A. C., *The Institutes of Justinian*. Cape Town: Juta, 1975. xiv + 368 pp.

Solutio societatis ex actione and Dissensus sociorum. *Tulane Law Rev.*, 48 (1974), 1098–110.

Juridical aspects of carriage of goods by sea and warehousing in Roman Law. *Recueils de la Société Jean Bodin pour l'histoire comparative des institutions*, 32 (1974), 117–59.

Duo Rei locationis in solidum esse possunt. *Museum Philologum Londiniense*, i (1975), 73–8.

FACULTY OF SCIENCE

BOTANY AND MICROBIOLOGY

AHMED, N., ROWBURY, R. J., Studies of septation and separation in a mutant of *Salmonella typhimurium*. *Zeitschrift fur Allg. Mikrobiologie*, 14 (1974), 455–63.

ARMITAGE, JUDITH P., ROWBURY, R. J., SMITH, D. G., The effects of chloramphenicol, nalidixic acid and penicillin on the growth and division of swarming cells of *Proteus mirabilis*. *J. med. Microbiol.*, 7 (1974), 459–64.

BELL, P. R., Observations on the male nucleus during fertilization in the fern *Pteridium aquilinum*. *J. Cell Sci.*, 17 (1975), 141–53.

Physical interactions of nucleus and cytoplasm in plant cells. *Endeavour*, 34 (1975), 19–22.

(with Lal, Manohar), Spermatogenesis in mosses. *The Biology of the Male Gamete*, ed. J. G. Duckett and P. A. Racey (Suppl. *Biological J. Linn. Soc.*), 7 (1975), 85–95.
(with Myles, Diana), An ultrastructural study of the spermatozoid of the fern, *Marsilea vestita. J. Cell Sci.*, 17 (1975), 633–45.
CAVE, CELIA F., BELL, P. R., The synthesis of ribonucleic acid and protein during oogenesis in *Pteridium aquilinum. Cytobiologie*, 9 (1974), 331–43.
DAVY, A. J., TAYLOR, K., Seasonal patterns of nitrogen availability in contrasting soils in the Chiltern Hills. *J. Ecol.*, 62 (1974), 793–807.
Seasonal changes in the inorganic nutrient concentrations in *Deschampia caespitosa* (L.). Beauv. in relation to its tolerance of contrasting soils in the Chiltern Hills. *Ibid.*, 63 (1975), 27–41.
EVANS, M. C. W., Isolation of chloroplasts from higher plants. *Laboratory Manual of Cell Biology*, ed. D. O. Hall and S. E. Hawkins. English Universities Press, 1975, 148–52.
Photosynthetic oxygen evolution and the relationship between electron transport and ATP synthesis in spinach chloroplasts. *Ibid.*, 153–6.
The partial purification and assay of ferredoxin from plants and bacteria. *Ibid.*, 183–6.
(with Albrecht, S. L.), Determination of the applied oxidation-reduction potential required for substrate reduction by *Chromatium* nitrogenase. *Biochem. biophys. Res. Commun.*, 61 (1974), 1187–92.
(with Cammack, R.), The effect of the redox state of the bound iron-sulphur centres in spinach chloroplasts on the reversibility of P700 photooxidation. *Biochem. biophys. Res. Commun.*, 63 (1975), 187–93.
(with Cammack, R., Reeves, S. G.), Properties of the photochemical reaction centre of photosystem I in spinach chloroplasts. *Proc. 3rd Int. Congr. Photosynthesis*, Ed. M. Avron. Amsterdam: Elsevier, 1974, 383–8.
(with Reeves, S. G., Cammack, R.), Determination of the oxidation reduction potential of the bound iron-sulphur proteins of the primary electron acceptor complex of photosystem I in spinach chloroplasts. *F.E.B.S. Letters*, 49 (1974), 111–14.
(with Telfer, A., Lord, A. V.), Evidence for bound ferredoxin as primary electron acceptor in photosynthetic electron transport in higher plants and blue green algae. *Progress in Photobiology*, ed. G. O. Schenck. Frankfurt: Deutsche Gesellschaft fur Lichtforschung, 1974, 250.
(with others), Mossbauer effect studies on the four-iron centres of two iron-sulphur proteins. *J. de Phys.*, C6 (1974), 343–6.
(with others), Amino acid sequence of ferredoxin from a photosynthetic green bacterium *Chlorobium limicola. Biochemistry*, 13 (1974), 2953–9.
(with others), The amino acid sequence of ferredoxin II from Chlorobium limicola, a green photosynthetic bacterium. *Biochemistry*, 14 (1975), 1938–43.
(with others), Amino acid sequence of Spirulina maxima ferredoxin. *Biochem. biophys. Res. Commun.*, 64 (1975), 399–407.
(with others), Ferredoxins, blue-green bacteria and evolution. *Biochem. Soc. Trans.*, 3 (1975), 361–8.
FOWDEN, L. (with Norris, R. D.), Cold-lability of prolyl-tRNA synthetase from higher plants. *Phytochemistry*, 13 (1974), 1677–87.
(with Norris, R. D., Watson, R.), The activation of amino acid analogues by phenylalanyl- and tyrosyl-tRNA synthetases from plants. *Ibid.*, 14 (1975), 393–6.

(with Watson, R.), The uptake of phenylalanine and tyrosine by seedling root tips. *Ibid.*, 14 (1975), 1181–6.

(with Wray, J. L., Bruce, R. E.), Development of aminoacyl tRNA synthetases in cultured *Nicotian A Tabacum* cells. *Ibid.*, 13 (1974), 697–701.

GOLDSMITH, F. B., A summary of the nature conservation value of Majorca. *Biol. Cons.*, 6 (1974), 79–83.

The sea-cliff vegetation of Shetland. *Discussion Papers in Conservation, U.C.L.*, 9 (1974), 35 pp.

Multivariate analyses of tropical grassland communities in Mato Grosso. *J. Biogeog.*, 1 (1974), 111–22.

(with Munton, R. J. C.), The ecological effects of recreation. *Recreational Geography*, ed. P. Lavery. Newton Abbot: David & Charles, 1974, 259–69.

HYNES, R. A., Altitudinal zonation in New Guinea Nothofagus forests. *Malesian Ecology*, vol. III, ed. J. R. Flenley. University of Hull, 1974, 75–109.

KHAN, S. R., STRANGE, R. N., Evidence for the role of fungal stimulant as a determinant of differential susceptibility of jute cultivars to *Colletotrichum corchori*. *Physiological Plant Pathology*, 5 (1975), 157–64.

LEWIS, D., Heteromorphic incompatibility system under disruptive selection. *Proc. R. Soc. Lond.*, B, 188 (1975), 247–56.

(with Casselton, Lorna), Missense suppression in *Coprinus lagopus* associated with a chromosome duplication. *J. gen. Microbiol.*, 88 (1975), 20–6.

(with Dickinson, H. G.), Interaction between the pollen grain coating and the stigmatic surface during compatible and incompatible intraspecific pollinations in *Raphanus*. *The Biology of the Male Gamete*, ed. J. G. Duckett and P. A. Racey. Suppl. No. 1 *Biol. J. Linn. Soc.*, 7 (1975), 165–75.

(with Senathirajah, Swarna), Resistance to amino acid analogues in Coprinus: dominance modifier genes and dominance reversal in dikaryons and diploids. *Genet. Res. Camb.*, 25 (1975), 95–108.

MORRIS, I., GLOVER, H. E. (with Yentsch, C. S.), Products of photosynthesis by marine phytoplankton: the effect of environmental factors on the relative rates of protein synthesis. *Marine Biology*, 27 (1974), 1–9.

O'CONNOR, F. B., GOLDSMITH, F. B. (with Macrae, M.), *Kynance Cove: Experimental Restoration Project—final report*. London: Countryside Commission, 1975, 96 pp.

PHILLIPS, R. (with Butcher, D. N.), Attempts to induce tumours with nucleic acid preparations from *Agrobacterium tumefaciens*. *J. gen. Microbiol.*, 86 (1975), 311–18.

(with Torrey, J. G.), DNA levels in differentiating tracheary elements. *Devel. Biol.*, 39 (1974), 322–5.

ROSCOE, D. H., MINOR, P. D., Colchicine resistance in mammalian cell lines. *J. Cell Sci.*, 17 (1975), 381.

SHANNON, K. P., ARMITAGE, JUDITH, ROWBURY, R. J., A change in cell diameter associated with an outer membrane lesion in a temperature-sensitive cell division mutant of Salmonella typhimurium. *Ann. Microbiol.*, 125B (1974), 233–58.

SMITH, D. G., Tellurite reduction in *Schizosaccharomyces pombe*. *J. gen. Microbiol.*, 83 (1974), 389–92.

Inhibition of swarming in *Proteus* spp. by tannic acid. *J. appl. Bact.*, 38 (1974), 29–32.

SRIVASTAVA, K. C., SMITH, D. G., Electron microscopy of a psychrophilic yeast, *Candida gelida*. *Micron*, 5 (1974), 191–9.

STONE, A. B., R factors: plasmids conferring resistance to antibacterial agents (a review article). *Sci. Progr. Oxf.*, 62 (1975), 89–101.

STONE, A. B., WILKIE, D., Mitochondrial and cellular inhibition by the folate analogue pyrimethamine in Saccharomyces cerevisiae: reversal of cellular effects by TMP. *Biochim. biophys. Acta*, 390 (1975), 133–6.

Instability of the mitochondrial inner membrane in *Saccharomyces cerevisiae* inhibited by erythromycin. *Proc. Soc. gen. Microbiol.*, 2 (1975), 48.

STRANGE, R. N., Quantitative assessment of disease symptoms in plants—localized effects. *Proc. Soc. gen. Microbiol.*, 2 (1975), 26–7.

WILKIE, D. (with Charlwood, B.), Effects of mitochondrial inhibition in *Saccharomyces cerevisiae*. *Biomembranes*, ed. L. Packer. New York: Academic Press, 1974, 27–34.

(with Kirk, D. J., Mittwoch, U.), Effects of mitochondrial inhibition by chloramphenicol on the mitotic cycle of human cell cultures. *J. Med. Genet.*, 11 (1975), 260–6.

(with Paterniti, James R., Jr, Eaton, Norman, R.), Selective inhibition of growth by the proline analogue thiazolidine-4-carboxylic acid and its probable mode of action in *Saccharomyces cerevisiae*. *Antimicrobial Agents and Chemotherapy* (1975), 25–31.

WILKIE, D., EGILSSON, V., EVANS, I. H., Mitochondria in oncogenesis. *The Lancet*, 7908 (1975), 697–8.

CHEMISTRY

AHMED, ETMINA, TOBE, M. L., Proton transfer and nitrogen inversion in the base-catalyzed hydrolysis of *trans*-dichloro[(R,R(S,S))-1,9-diamino-3,7-diazanonane]cobalt(III)chloride. *Inorg. Chem.*, 13 (1974), 2956–61.

AHMED, ETMINA, TUCKER, MARIE L., TOBE, M. L., Primary isotope effects and general base catalysis in the hydrolysis of *trans*-dichloro(1,9-diamino-3,7-diazanonane)cobalt(III) cations. *Inorg. Chem.*, 14 (1975), 1–5.

ANDERSON, J. E., Conformations of a phenyl group, and its effects on the barrier to rotation in substituted ethanes. *J. chem. Soc. Perkin II* (1974), 1779–83.

ANDERSON, J. E., PEARSON, H., A secondary effect on barriers to rotation in substituted ethanes. *J. Amer. chem. Soc.*, 97 (1975), 764–9.

BANTHORPE, D. V., BOUILLIER, P. A. (with Fordham, W. D.), Reactions of terpenoids in strong acids. Pt. I. Novel rearrangements of geraniol and nerol to form 3β,6α,6αα-trimethyl-*cis*-perhydrocyclo-penta[*b*]furan. *J. chem. Soc. Perkin I* (1974), 1637–44.

BEVAN, J. W., LEGON, A. C., MILLEN, D. J., Tilts, bends and twists of methylene groups in four-membered rings. Evidence from the microwave spectrum of trimethylene sulphoxide. *Chem. Comms.*, No. 16 (1974), 659–60.

BEVAN, J. W., LEGON, A. C., MILLEN, D. J., ROGERS, S. C., Hydrogen bonding in gaseous mixtures. Microwave spectroscopic detection of simple complexes. *Chem. Comms.*, No. 4 (1975), 130–1.

Existence and molecular properties of a gas-phase, hydrogen-bonded complex between hydrogen fluoride and water established from microwave spectroscopy. *Chem. Comms.*, No. 9 (1975), 341–3.

BLOODWORTH, A. J., DAVIES, A. G., GRIFFIN, I. M., MUGGLETON, BRENDA, ROBERTS, B. P., Rate constants for the formation of oxiranes from

β-peroxyalkyl radicals. The gem-dialkyl effect in homolytic ring closure. *J. Amer. chem. Soc.*, 96 (1974), 7599–601.

BLOODWORTH, A. J., GRIFFIN, I. M., Oxymetallation. Pt VII. Peroxymercuration of terminal, medial, and cyclic alkenes without accompanying acyloxymercuration. *J. chem. Soc. Perkin I* (1975), 195–200.

Pt VIII. The stereochemistry of peroxymercuration of cyclohexene, norbornene, but-2-ene, and stilbene; intramolecular co-ordination in β-peroxyalkylmercury trifluoroacetates. *J. chem. Soc. Perkin II* (1975), 531–5.

Pt IX. Bromodemercuration of peroxymercurials derived from terminal, medial, and cyclic alkenes to give β-bromoperoxides. *J. chem. Soc. Perkin I* (1975), 695–9.

BOSWORTH, YVONNE M., CLARK, R. J. H., Intensity studies on the Raman-active fundamentals of some square-planar (MX_4^{n-}) ions and of the ICl_2^- ion. Calculation of parallel and perpendicular bond polarizability derivatives and bond anisotropies. *Inorg. Chem.*, 14 (1974), 170–7.

Intensity studies on the Raman-active fundamentals of hexahalogeno-anions of second- and third-row transition and non-transition metals. The calculation of parallel and perpendicular bond polarisability derivatives. *J. chem. Soc. Dalton* (1974), 1749–61.

Resonance Raman spectrum of the complex $[(C_2H_5)_4N]AuBr_4$. *Chem. Phys. Letters*, 28 (1974), 611–13.

Resonance Raman and electronic spectra of different salts of the $[AuBr_4]^-$ ion. *J. chem. Soc. Dalton* (1975), 381–5.

BRAUNSTEIN, P., CLARK, R. J. H., Synthesis and properties of arylgold(III) compounds. *Inorg. Chem.*, 13 (1974), 2224–9.

CALLOMON, J. H., CREUTZBERG, F., The electronic emission spectrum of ionized nitrous oxide, N_2O^+: $A^2\Sigma^+ - X^2\pi$. *Phil. Trans.*, 277 (1974), 157–89.

CHADWICK, D., MILLEN, D. J., Molecular structure of methylene bromide: comparison of structures of halogenomethanes. *J. Molec. Struct.*, 25 (1975), 216–18.

CHARLWOOD, KATHARINE A., GRIFFITH, MARJORIE J., LAMONT, D. MARGARET, VERNON, C. A. (with Wilcock, Joan C.), Effects of nerve growth factor from the venom of *Vipera russelli* on sensory and sympathetic ganglia from the embryonic chick in culture. *J. Embryol. exp. Morph.*, 32 (1974), 239–52.

CHARLWOOD, KATHARINE A., VERNON, C. A. (with Banks, Barbara E. C., Edwards, D. C., Walter, S. J.), Effects of nerve growth factors from mouse salivary glands and snake venom on the sympathetic ganglia of neonatal and developing mice. *J. Physiol.*, 247 (1975), 289–98.

CHRZASTOWSKI, J. Z., COOKSEY, C. J., JOHNSON, M. D., LOCKMAN, B. L., STEGGLES, P. N., Inversion of configuration in a bimolecular homolytic substitution at saturated carbon. *J. Amer. chem. Soc.*, 97 (1975), 932–4.

CLARK, R. J. H., COLES, M. A., Reactions of various organotitanium compounds with potentially bidentate alkenyloxo- and related ligands. *J. chem. Soc. Dalton* (1974), 1462–7.

CLARK, R. J. H., ELLESTAD, O. H., Vapour phase Raman spectra, Raman band contour analyses, Coriolis constants and force constants of the molecules, SPF_3, $FCCl_3$ and $BrCCl_3$. *J. mol. Spectroscopy*, 56 (1975), 385–97.

CLARK, R. J. H., ELLESTAD, O. H., MITCHELL, P. D., Rotating cell for recording Raman spectra of compounds in the vapour phase at elevated temperatures. *Appl. Spectroscopy*, 28 (1974), 575–6.

CLARK, R. J. H., FRANKS, M. L., Resonance Raman and electronic spectra of various salts of the $Mo_2Cl_8^{4-}$ ion. *J. Amer. chem. Soc.*, 97 (1975), 2691–700.

CLARK, R. J. H., KAMINARIS, D., Pentafluorothiophenol derivatives of some early transition metals. *Inorg. Chimica Acta*, 11 (1974), L7–8.

CLARK, R. J. H., MITCHELL, P. D., Preresonance Raman intensity studies on the fundamentals of the Group IV tetrahalides. *J. mol. Spectroscopy*, 51 (1974), 458–74.

Resonance Raman spectroscopic study of titanium tetraiodide in different organic solvents: spectroscopic constants and half-band widths for the ν_1 (a_1) vibration. *J. Raman Spectroscopy*, 2 (1974), 399–405.

Vapour phase Raman intensity studies on the Group IV tetrachlorides. *J. chem. Soc. Faraday Trans II*, 71 (1975), 515–24.

CLARK, R. J. H., RIPPON, D. M., The vapour phase Raman spectra, Raman band contour analyses, Coriolis constants, force constants and values for thermodynamic functions of the symmetric top molecules POF_3, $POCl_3$, VOF_3, $VOCl_3$, $PSCl_3$ and $FClO_3$. *Molec. Physics*, 28 (1974), 305–19.

The vapor phase Raman spectra, Raman band contour analyses, Coriolis constants, force constants, and values for thermodynamic functions of the trihalides of Group V. *J. mol. Spectroscopy*, 52 (1973), 58–71.

CLARK, R. J. H., STOCKWELL, J. A., Complexes of group VI hexacarbonyls with group V ligands containing an olefinic side-chain. *J. chem. Soc. Dalton* (1975), 468–74.

CLARK, R. J. H., TRUMBLE, W. R., Resonance Raman spectrum of the mixed-valence compound Cs_2SbCl_6. *Chem. Comms.*, No. 9 (1975), 318–9.

COOK, R. S., PHILLIPS, ROSEMARY, RIDD, J. H., Marked deviations from the additivity principle in the products of nitration of substituted anilinium ions. *J. chem. Soc. Perkin II* (1974), 1166–71.

DAVIES, A. G., Homolytic reactions of organoboranes. *Pure and appl. Chem.*, 39 (1974), 497–503.

DAVIES, A. G., DENNIS, R. W., ROBERTS, B. P., Homolytic organometallic reactions. Pt XII. An electron spin resonance study of the α-scission of alkoxyalkylphosphoranyl radicals in solution. *J. chem. Soc. Perkin II* (1974), 1101–7.

(with Dobbie, R. C.), The pronounced differences in reactivity of perfluoro-1-butoxyl and *t*-butoxyl radicals. *Chem. Comms.*, No. 12 (1974), 468–9.

DAVIES, A. G., MAKI, T., ROBERTS, B. P. (with Pelter, A., Sharrocks, D. N.), Homolytic alkylthiyldealkylation of mixed organoboranes. *J. Organometallic Chem.*, 82 (1974), 301–5.

DAVIES, A. G., PARROTT, M. J., ROBERTS, B. P., Phenylphosphoranyl radicals: are they tetrahedral or trigonal bipyramidal? *Chem. Comms.*, No. 23 (1974), 973–4.

DEEMING, A. J., Reactions relevant to homogeneous catalysis by transition metals. *International Review of Science—Inorganic Chemistry*, ser. 2, ed. M. L. Tobe. London: Butterworth, 1974, 271–326 (ch. IX).

DEEMING, A. J., HASSO, SUNDUS, Isolation of intermediates in metal carbonyl substitution: adducts of $H_2Os_3(CO)_{10}$. *J. Organometallic Chem.*, 88 (1975), C21–3.

DEEMING, A. J., HASSO, SUNDUS, UNDERHILL, M., Insertion of acetylene into osmium-hydrogen bonds in cluster complexes. *J. Organometallic Chem.*, 80 (1974), C53–5.

(with others), Triruthenium and triosmium carbonium derivatives. *Chem. Comms.*, No. 20 (1974), 807–8.

DEEMING, A. J., ULLAH, S. S., DOMINGOS, A. J. P. (with Johnson, B. F. G., Lewis, J.), The reactivity of coordinated ligands. Pt xx. Preparation and reactions of cyclooctadiene complexes of iron, ruthenium and osmium. *J. chem. Soc. Dalton* (1974), 2093–104.

DEEMING, A. J., UNDERHILL, M., Reactions of dodecacarbonyl-*triangulo*-triosmium with alkenes and benzene; fluxional behaviour of μ_3-(ethanyl-2-ylidyne-ρ-hydrido-triangulo-tris(tricarbonylosmium)(30s-Os). *J. chem. Soc. Dalton* (1974), 1415–19.

DENNIS, R. W., ROBERTS, B. P., An electron spin resonance study of the structure and reactivity of aminophosphoranyl radicals in solution. *J. chem. Soc. Perkin II* (1975), 140–5.

DERRICK, P. J. (with Burlinghame, A. L.), Kinetics and mechanisms of unimolecular gas-phase reactions of radical cations at times of 10^{-11} to 10^{-5} s following field ionization. *Accounts Chem. Research*, 7 (1974), 328–33.

DICKER, S. S., MORRIS, CHRISTINE A., Investigation of a substance of renal origin which inhibits the growth of renal cortex explant *in vitro*. *J. Embryol. exp. Morph.*, 31 (1974), 655–65.

DONKERSLOOT, M. C. A., WALMSLEY, S. H. (with others), Intermolecular potential energy functions and Gruneisen parameters of simple molecular crystals. *Chem. Phys. Letters*, 26 (1974), 284–7.

DOONAN, S., DOONAN, HILARY J., HANFORD, R., WALKER, J. M. (with others), The primary structure of aspartate aminotransferase from pig heart muscle, limited peptic digestion. *Atti della Acad. Naz. Lincei*, 56 (1974), 581–8.

(with others), The primary structure of aspartate aminotransferase from pig heart muscle, chymotryptin peptides. *Ibid.*, 56 (1974), 589–98.

DOONAN, S., HUGHES, G. J. (with others), Homology of the primary structure of cytoplasmic and mitochondrial aspartate aminotransferases from pig heart muscle. *F.E.B.S. Letters*, 49 (1974), 25–8.

DOONAN, S., SCHMUTZLER, W., VERNON, C. A. (with Koerner, Diona H.), Inducibility and some properties of the threosine dehydratase of sheep liver. *Biochem. J.*, 144 (1974), 533–41.

GARRATT, P. J., Ring systems of topical interest. *Aromatic and Heteroaromatic Chemistry*, vol. 3, ed. C. W. Bird and G. W. H. Cheeseman. London: Chemical Society, 1975, 1–7.

GARRATT, P. J., NEOH, S. B., 3-Thiabicyclo[3.2.0]hepta-1,4-dienes. Synthesis of tetraphenyl-2,5-dithiabisnorbiphenylene. *J. Org. Chem.*, 40 (1975), 970–1.

GARRATT, P. J., NICOLAIDES, D. N., Synthesis and some reactions of 3-thiabicyclo[3,2,0]hepta-1,4-diene. A case for revival of the Mills-Nixon effect. *J. Org. Chem.*, 39 (1974), 2222–5.

GILOW, H. M., RIDD, J. H., Kinetics of bromination of some substituted pyridinium ions by hypobromous acid in aqueous perchloric acid. *J. Org. Chem.*, 39 (1974), 3481–6.

HANFORD, R., DOONAN, HILARY J., DOONAN, S., VERNON, C. A., WALKER, J. (with others), The primary structure of aspartate aminotransferase from pig heart muscle. Peptides produced by cleavage with cyanogen bromide and with dilute acid. *Atti della Acad. Naz. dei Lincei*, 56 (1974), 73–83.

HART, C. G., STIDDARD, M. H. B., The co-adsorption of hydrogen atoms and carbon monoxide on silver and gold. *Surface Science*, 44 (1974), 638–40.

HILL, A. E., HOFFMANN, H. M. R., One stage of bicyclo[3.2.2]nona-6,8-dien-

3-ones. The silver trifluoroacetate induced reaction of 2-methoxyallyl bromide with arenes. *J. Amer. chem. Soc.*, 96 (1974), 4597–603.

HOFFMANN, H. M. R. (with Nour, T. A.), Favorsky rearrangement under Reformatsky conditions. The zinc-induced debromination of 1,3-dibromo-1,1-diphenylpropan-2-one in methanol as solvent. *Chem. Comms.*, No. 1 (1975), 37–8.

HOFFMANN, H. M. R., VINTER, J. G., α,α'-Dibromocycloalkanones. Preparation and conformation. *J. Org. Chem.*, 39 (1974), 3921–4.

LAYTON, A. J., REES, J. H., RIDD, J. H., Absence of the expected field effect in the hydrogen-isotope exchange reactions of a bridged anthracene derivative carrying a nitrogen pole. *Chem. Comms.*, No. 13 (1974), 518–19.

LEGON, A. C., MILLEN, D. J., Microwave spectroscopy. *Molecular Spectroscopy*, vol. 2, ed. R. F. Barrow, D. A. Long, and D. J. Millen. London: Chemical Society, 1974, 1–99.

MACCOLL, A., NAGRA, S. S., Catalysis by hydrogen halides in the gas phase. Pt XXVI. Isopropylamine and hydrogen bromide. *J. chem. Soc. Perkin II* (1974), 1099–101.

Pt XXVII. N-t-butylacetamide and hydrogen chloride. *Ibid.* (1975), 314–17.

PHILLIPS, ROSEMARY A., RIDD, J. H. (with Danieli, R., Ricci, A.), The effects of lanthanide shift reagents on the NMR spectra of diaza- and dithiacyclophanes. *J. Heterocyclic Chem.*, 11 (1974), 551–5.

PHILLIPS, S. V. (with Truter, Mary R.), Crystal structure of a complex of caesium thiocyanate with phenacylkojate: 5-phenacyl-2-(hydroxymethyl-4H-pyran-4-one-caesium thiocyanate). *J. chem. Soc. Dalton* (1974), 2517–20.

RIDD, J. H. (with Danieli, R., Ricci, A., Gilow, H. M.), Deviations from the additivity principle in rates of aromatic nitration and aromatic bromination (by 'positive bromine'). *J. chem. Soc. Perkin II* (1974), 1477–83.

SHIPOLINI, R. A., CALLEWAERT, G. L., COTTRELL, R. C., VERNON, C. A., The amino-acid sequence and carbohydrate content of phospholipase A_2 from bee venom. *Eur. J. Biochem.*, 48 (1974), 465–76.

SHIPOLINI, R. A., DOONAN, S., VERNON, C. A., The disulphide bridges of phospholipase A_2 from bee venom. *Eur. J. Biochem.*, 48 (1974), 477–83.

SONDHEIMER, F., [18]Annulene. *Org. Syntheses*, 54 (1974), 1–10.

SPORTOUCH, S., CLARK, R. J. H. (with Gaufrès, R.), Vapour phase Raman and vibrational assignments for sulphuryl fluoride; application of the trace scattering method for the assignment of totally symmetric vibrations. *J. Raman Spectroscopy*, 2 (1974), 153–62.

SUTOR, D. JUNE, WOOLEY, SUSAN E., Composition of urinary calculi by X-ray diffraction. Collected data from various localities. Pt XV–XVII. Royal Navy; Bristol, England; and Dundee, Scotland. *Brit. J. Urology*, 46 (1974), 229–32.

The crystalline composition of prostatic calculi. *Ibid.*, 46 (1974), 533–5.

The organic matrix of gallstones. *J. Brit. Soc. Gastroenterology*, 15 (1974), 487–91.

(with Illingworth, J. J.), Some aspects of the adult urinary stone problem in Great Britain and Northern Ireland. *Brit. J. Urology*, 46 (1974), 275–88.

(with Illingworth, J. J.), A geographical and historical survey of the composition of urinary stones. *Ibid.*, 46 (1974), 393–407.

THIRUNAMACHANDRAN, T. (with Craig, D. P., Power, E. A.), Induced circular dichroism: a theoretical description. *Chem. Phys. Letters*, 27 (1974), 149–53.

TOBE, M. L., Editor, *International Review of Science—Inorganic Chemistry*, ser. 2. Vol. 9. *Reaction Mechanisms in Inorganic Chemistry*. London: Butterworth, 1974, 380 pp.

(with Romeo, R.), Kinetics of the reversible replacement of amine by chloride under the trans effect of dimethyl sulfoxide in square-planar platinum(II) complexes. *Inorg. Chem.*, 13 (1974), 1991–6.

(with Romeo, R., Trozzi, M.), Steric effects and activation parameters in nucleophilic substitution reactions of platinum(II) complexes. *Inorg. Chim. Acta*, 11 (1974), 231–6.

WEAVERS, R. T., JONES, R. S., SONDHEIMER, F., The synthesis and protonation of mono- and dibenzobisdehydro[15]annulenones. The effect of benzannelation on the diatropicity of a conformationally fixed macrocyclic $(4\underline{n}+2)$ π-electron system. *Tetrahedron Letters*, No. 12 (1975), 1043–6.

WIFE, R. L., BEEBY, P. J., SONDHEIMER, F., Synthesis of bisdehydrooxa- and -thia[15]annulenes. Conjugated 15-membered heterocycles. *J. Amer. chem. Soc.*, 97 (1975), 641–3.

WIFE, R. L., SONDHEIMER, F., The synthesis of dimethylbisdehydrothia[17] annulenones and their dioxides. Configurational and conformational isomerism in conjugated 17-membered heterocycles. *Tetrahedron Letters*, No. 3 (1974), 195–8.

Synthesis of dimethylbisdehydrooxa- and -thia[13]annulenes. Configurational and conformational isomerism in conjugated 13-membered heterocycles. *J. Amer. chem. Soc.*, 97 (1975), 640–1.

WONG, H. N. C., GARRATT, P. J., SONDHEIMER, F., Synthesis of *sym*-dibenzo-1,5-cyclooctadiene-3,7-diyne and *sym*-dibenzo-1,3,5-cyclooctatrien-7-yne, presumably planar conjugated eight-membered ring compounds. *J. Amer. chem. Soc.*, 96 (1974), 5604–5.

YAMAMOTO, K., SONDHEIMER, F., Unsaturated macrocyclic compounds. Pt CIX. Synthesis of tetradehydrotetraaza[13]annulene. *Tetrahedron*, 30 (1974), 4229–32.

GEOLOGY

BARNARD, T., HAY, W. W., On Jurassic Coccoliths: a tentative zonation of the Jurassic of southern England and north France. *Eclogae geol. Helv.*, 67 (1974), 563–85.

BISHOP, M. J., A preliminary report on the Middle Pleistocene mammal bearing deposits of Westbury-sub-Mendip, Somerset. *Proc. Univ. Bristol Spelaeol. Soc.*, 13 (1974), 301–18.

Earliest record of man's presence in Britain. *Nature, Lond.*, 253 (1975), 95–7.

CURRY, D., A method of classification of samples into groups of similar faunal content and its application to some rocks from the floor of the English Channel. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 99–108.

CURRY, D., SMITH, A. J., New discoveries concerning the geology of the central and eastern parts of the English Channel. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 155–68.

(with others), The stratigraphy of the post-Palaeozoic sequences in part of the western Channel. *Ibid.*, 79–98.

DONOVAN, D. T., Irish Sea. *Encyclopædia Britannica* (15th ed.). Chicago: Benton, 1974. *Macropædia*, 9 (1974), 893.

Bay of Biscay. *Ibid.*, 1076–7.

DUNCAN, A. M. (with others), Recent eruption of Mount Etna. *Nature, Lond.* 250 (1974), 385–7.

JONES, E. J. W. (with others), Tertiary pelagic ooze on Ita Maitai Guyot, Equatorial Pacific: DSDP Sites 200 and 201. *Initial Reports of the Deep Sea Drilling Project*, vol. 20. Washington D.C.: U.S. Government Printing Office, 1973, 87–96.

(with others), Oolitic limestone on the Ita Maitai Guyot, Equatorial Pacific: DSDP Site 202. *Ibid.*, 97–102.

(with others), The post-Jurassic sedimentary sequence on the Pacific plate; a kinematic interpretation of diachronous deposits. *Ibid.*, 725–38.

JONES, E. J. W., PRESTON, N. J., SMITH, A. C. S. (with Ramsay, A. T. S.), A Cretaceous guyot in the Rockall Trough. *Nature, Lond.*, 251 (1974), 129–31.

LORD, A. R., Ostracods from the Domerian and Toarcian of England. *Palaeontology*, 17 (1974), 599–622.

MASON, R., The location of the Iapetus suture in the Scandinavian Caledonides. *Geol. Mag.*, 111 (1974), 439–50.

Discussion of 'Sulitjelma gabbro, northern Norway: a palaeomagnetic result' by J. D. A. Piper. *Earth and Planetary Sci. Letters*, 25 (1975), 89.

OATES, M. J., The stratigraphy and palaeoecology of the Hartwell Clay (Upper Kimmeridgian) of Aylesbury, Buckinghamshire. *Proc. Geol. Assoc.*, 85 (1974), 367–75.

SMITH, A. C. S. (with Walsh, J. N.), The determination of selected elements in the U.S.G.S. standard rocks STM-1 and RGM-1. *U.S.G.S. Professional Paper*, No. 840 (1975), 83–6.

SMITH, A. J., *Geology*. London: Hamlyn, 1975. 128 pp.

SMITH, A. J., CURRY, D., Structure and geological evolution of the English Channel. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 3–20.

HISTORY AND PHILOSOPHY OF SCIENCE

MAXWELL, A. N., The rationality of scientific discovery. Pt II. An aim-oriented theory of scientific discovery. *Phil. Sci.*, 41 (1974), 247–95.

Does the minimal statistical interpretation of quantum mechanics resolve the measurement problem? *Methodology and Science* 8 (1975), 84–101.

RATTANSI, P. M., *Isaac Newton and Gravity*. London: Priory Press, 1974. 96 pp.

SMEATON, W. A., Etienne Jacques de Montgolfier (1745–1799) and Michel Joseph de Montgolfier (1740–1810); Bertrand Pelletier (1761–1797); Jean François Pilatre de Rozier (1754–1785). *Dictionary of Scientific Biography*, ed. C. C. Gillispie. New York: Charles Scribner, 1974, vol. 9, 492–4; vol. 10, 496–7, 608–10.

HUMAN GENETICS AND BIOMETRY

AZEVEDO, E., HOPKINSON, D. A., HARRIS, H. (with Smith, M.), A study of possible factors influencing the variation in liver alcohol dehydrogenase activity in individuals of the 'usual' ADH phenotype. *Ann. hum. Genet., Lond.*, 38 (1974), 31–8.

COOK, P. J. L., The genetics of α_1-antitrypsin: a family study in England and Scotland. *Ann. hum. Genet., Lond.*, 38 (1975), 275–87.

The Pi system: a family study in England and Scotland. Some genetic problems of the Pi system. INSERM, 40 (1975), 67–70.
(with others), Alpha$_1$ antitrypsin deficiency in chronic liver disease, and a report of cirrhosis and emphysema in adult members of a family. *Brit. med. J.*, 1 (1974), 366–7.

COOK, P. J. L., ROBSON, E. B. (with Mace, M. A.), Linkage data on red cell acid phosphatase from family studies. *Ann. hum. Genet., Lond.*, 38 (1975), 471–8.

DEOL, M. S., Genes affecting behaviour and the inner ear in the mouse. *The Genetics of Behaviour*, ed. J. H. F. van Abeelen. Amsterdam: North-Holland, 1974, 259–71.
Racial differences in pigmentation and natural selection. *Ann. hum. Genet., Lond.*, 38 (1975), 501–3.
(with Lane, P. W.), Mocha, a new coat color and behaviour mutation on chromosome 10 of the mouse. *J. Hered.*, 65 (1974), 362–4.

EDMISTON, J., Effect of exclusion of the earth's magnetic field on the germination and growth of seeds of white mustard (Sinapis alba L.). *Biochem. Physiol. Pflanzen* (*BPP*), 167 (1975), 97–100.

EDWARDS, Y. H. (with Chase, J. F. A., Edwards, M. R., Tubbs, P. K.), Carnitine acetyltransferase: the question of multiple forms. *Eur. J. Biochem.*, 46 (1974), 209–15.

FISHER, R. A., HARRIS, H. (with Turner, B. M.), Post-translational alterations of human erythrocyte enzymes. *Isozymes* 1. *Molecular Structure*, ed. C. L. Markert. New York: Academic Press, 1975, 781–95.
(with Turner, B. M., Dorkin, H.), An investigation of some factors affecting levels of erythrocyte inorganic pyrophosphatase activity. *Clin. chim. Acta*, 61 (1975), 27–37.

FISHER, R. A., PUTT, W., HARRIS, H., Further studies on erythrocyte inorganic pyrophosphatase: an examination of different mammalian species and human-Chinese hamster hybrid cells. *Ann. hum. Genet., Lond.*, 38 (1974), 171–8.

GARDINER, S. E., POVEY, S., HOPKINSON, D. A. (with van Heyningen, V., Bobrow, M., Bodmer, W. F.), Chromosome assignment of some enzyme loci: mitochondrial malate dehydrogenase to 7, mannosephosphate isomerase and pyruvate kinase to 15 and probably, esterase D to 13. *Ann. hum. Genet., Lond.*, 38 (1975), 295–303.

HARRIS, H., *Prenatal Diagnosis and Selective Abortion*. London: Nuffield Provincial Hospitals Trust, 1974. 101 pp.
The Principles of Human Biochemical Genetics (2nd ed.). Amsterdam: North-Holland, 1975. 473 pp.
Common and rare alleles. *Sci. Prog. Oxf.*, 61 (1974), 495–514.
The development of Penrose's ideas in genetics and psychiatry. *Brit. J. Psychiat.*, 125 (1974), 529–36.
Genetic heterogeneity in inherited disease. *J. Clin. Path.*, 27, Suppl. 8 (1974), 32–7.

HOLT, S. B., Importance de la dermatoglyphique en médecine. *Documents scientifiques Guigoz*, No. 97 (1974), 2–14.
The hypothenar radial arch, a genetically determined epidermal ridge configuration. *Am. J. Phys. Anthrop.*, 42 (1975), 211–14. (Volume dedicated to Harold Cummins.)

HOPKINSON, D. A., The use of thiol reagents in the analysis of isozyme patterns.

Isozymes I. *Molecular Structure*, ed. C. L. Markert. New York: Academic Press, 1975, 489–508.
Isozymes. *J. clin. Path.*, 27, Suppl. 8 (1974), 122–7.
(with Geerdink, R. A., Bartstra, H. A.), Phosphoglucomutase (PGM_2) variants in Trio Indians from Surinam. *Hum. Hered.*, 24 (1974), 40–4.
HOPKINSON, D. A., EDWARDS, Y. H. (with Coppock, J. S., Munhlemann, M. F.), The detection and differentiation of the products of the human carbonic anhydrase loci, CA_I and CA_{II}, using fluorogenic substrates. *Ann. hum. Genet., Lond.*, 38 (1974), 155–62.
JAMES, W., Marital coital rates, spouses' ages, family size and social class. *J. Sex Res.*, 10 (1974), 205–18.
Possible bias associated with the use of Weinberg's rule. *J. Reproductive Med.*, 13 (1974), 199.
The fitness of the human zygote. *J. Biosocial Sci.*, 7 (1975), 1–4.
Sex ratio in large sibships, in the presence of twins and in Jewish sibships. *Ibid.*, 165–9.
Sex ratio and the sex composition of the existing sibs. *Ann. hum. Genet., Lond.*, 38 (1975), 371–8.
The declines in dizygotic twinning rates and in birth rates. *Ann. hum. Biol.*, 2 (1975), 81–4.
JOHNSON, D. R., Further observations on the hairpin-tail (T^{hp}) mutation in the mouse. *Genet. Res. Camb.*, 24 (1975), 207–13.
JOHNSON, D. R., HUNT, D. M., Endocrinological findings in sterile pink-eyed mice. *J. Reprod. Fert.*, 42 (1975), 51–8.
KALMUS, H., SEEDBURGH, D., Correlated odour threshold bimodality of two out of three synthetic musks. *Ann. hum. Genet., Lond.*, 38 (1975), 495–9.
(with Luke, I.), Impairment of colour vision in patients with ocular hypertension and glaucoma, with special reference to the 'D and H color-rule'. *Brit. J. Ophthal.*, 58 (1974), 922–6.
(with Neuhann, T.), Diagnosis of tritanopic vision by means of the D & H color-rule. Albrecht v. Graefes. *Arch. klin. exp. Ophthal.*, 191 (1974), 121–5.
KIRK, D. J. (with Jones, R. N.), Quantitative nuclear variation in inbred lines and hybrid rye. *Heredity*, 32 (1974), 357–73.
KIRK, D. J., MITTWOCH, U., Changes in the mitotic cycle induced by α-solanine. *Humangenetik*, 26 (1975), 105–11.
LUCAS, M., PAGE, C., TRANMER, M., Chromosomes of the orang utan *Pongo pygmaeus*. *Ann. Report of the Jersey Wildlife Preservation Trust* (1973), 57–8.
MITTWOCH, U., Sex chromatin. *The Cell in Medical Science*, vol. 2, ed. F. Beck and J. B. Lloyd. London: Academic Press, 1974, 169–96.
Chromosomes and sex differentiation. *Intersexuality in the Animal Kingdom*, ed. R. Reinboth. Berlin: Springer-Verlag, 1975, 438–46.
Cellular regulation in sexual development. *Helv. Paediat. Acta Suppl.*, 34 (1974), 13–18.
Lateral asymmetry and gonadal differentiation. *Lancet*, 1 (1975), 401–2.
MITTWOCH, U., KIRK, D. J. (with Wilkie, D.), Effects of mitochondrial inhibition by chloramphenicol on the mitotic cycle in human cell cultures. *J. med. Genet.*, 11 (1974), 260–6.
NOADES, J., ROBSON, E. B. (with others), Segregation of ACP_1 and MNSs in families with structural rearrangements involving chromosome 2. *Ann. hum. Genet., Lond.*, 38 (1975), 479–84.
PARRINGTON, J. M. (with McDermott, A.), Elucidation of a pericentric in-

version of a D-group chromosome in the mother of a child with Patau's syndrome. *Ann. hum. Genet., Lond.*, 38 (1975), 305–7.

POVEY, S., CORNEY, G., HARRIS, H., Genetically determined polymorphism of a form of hexokinase, HK III, found in human leucocytes. *Ann. hum. Genet., Lond.*, 38 (1975), 407–16.

POVEY, S., SWALLOW, D. M. (with Bobrow, M., Craig, I., van Heyningen, V.), Probable assignment of the locus determining human red cell acid phosphatase ACP_1 to chromosome 2 using somatic cell hybrids. *Ann. hum. Genet., Lond.*, 38 (1974), 1–6.

(with others), Human intra-specific somatic cell hybrids: a genetic and karyotype analysis of crosses between lymphocytes and D98/AH/2. *Somatic Cell Genetics*, 1 (1974), 41–64.

ROBSON, E. B., Genetics and enzymology. *Lab., Giornale di Ricerca e Diagnostica di Laboratorio*, 1 (1974), 135–9.

(with Donald, L. J.), The genetics of placental alkaline phosphatase: a possible 'null' allele. *Ann. hum. Genet., Lond.*, 38 (1974), 7–18.

(with others), Early fusion of two human embryos? *Ibid.*, 63–76.

ROBSON, E. B., COOK, P. J. L. (with others), Linkage of Chido and HL-A. *Tissue Antigens*, 4 (1974), 366–73.

(with others), Pericentric inversions of human chromosomes 9 and 10. *Amer. J. Hum. Genet.*, 26 (1975), 746–66.

ROSTRON, J., A non-linear function for maximizing the parent-offspring regression. *Adv. Appl. Prob.*, 7 (1975), 17–19.

SMITH, C. A. B., Prime factors and recurring duodecimals. *Math. Gaz.*, 59 (1975), 106–9.

A non-parametric test for linkage with a quantitative character. *Ann. hum. Genet., Lond.*, 38 (1975), 451–60.

The roses and the princes. *J. Recreational Math.*, 7 (1975), 295–8.

Looking glass numbers. *Ibid.*, 299–305.

SMITH, C. A. B., VETTA, A., Assortative mating. *Adv. Appl. Prob.*, 7 (1975), 21–3.

STEWART, A. L., Intensive care of infants of very low birth weight. II. Results of follow-up. *Inst. Res. Mental & Multiple Handicap Symp., 15*, ed. F. P. Woodford. London: Institute for Research into Mental and Multiple Handicap, 1974, 19–28.

(with Davies, P. A.), Low birth-weight infants: neurological sequelæ and later intelligence. *Brit. med. Bull.*, 31 (1975), 85–91.

(with Reynolds, E. O. R.), Improved prognosis for infants of very low birth weight. *Pediatrics*, 54 (1974), 724.

STEWART, G. (with Thomas, P. K., Calne, D. B.), Hereditary motor and sensory polyneuropathy (peroneal muscular atrophy). *Ann. hum. Genet., Lond.*, 38 (1974), 111–54.

SWALLOW, D. S., CORNEY, G., HARRIS, H. (with Hirschhorn, R.), Acid α-glucosidase: a new polymorphism in man demonstrable by 'affinity' electrophoresis. *Ann. hum. Genet., Lond.*, 38 (1975), 391–406.

VETTA, A., SMITH, C. A. B., Comments on Fisher's theory of assortive mating. *Ann. hum. Genet., Lond.*, 38 (1974), 243–8.

WICKRAMARATNE, G. A. DE S., The role of latent viruses in subline differentiation in inbred strains of mice. *Genet. Res., Camb.*, 24 (1974), 11–17.

MATHEMATICS

BOSANQUET, L. S., Corrections and comments. *Collected Papers of G. H. Hardy, including joint papers with J. E. Littlewood and others*, vol. VI, ed. London Mathematical Society committee. Oxford: Clarendon Press, 1974, 9–10, 35–6, etc.

BROWN, B. H., A measure on the real line constructed from an arbitrary point function. *Proc. Lond. Math. Soc.*, 27 (1973), 1–21.

BROWN, S. N. (with Riley, N.), Propagation of disturbances in an unsteady free-convection boundary layer. *J. Appl. Math. Phys.* (ZAMP), 25 (1974), 145–56.

BROWN, S. N., DANIELS, P. G., On the viscous flow about the trailing edge of a rapidly oscillating plate. *J. Fluid Mech.*, 67 (1975), 743–61.

BROWN, S. N., STEWARTSON, K., A non-uniqueness of the hypersonic boundary layer. *Quart. J. Mech. Appl. Math.*, 28 (1975), 75–90.

DANIELS, P. G., Numerical and asymptotic solutions for the supersonic flow near the trailing edge of a flat plate at incidence. *J. Fluid Mech.*, 63 (1974), 641–56.

DAVIS, A. M. J., The zeros of a function occurring in the solution of the Graetz problem. *Mathematika*, 21 (1974), 55–63.

Short surface waves in a canal: dependence of frequency on the curvatures and their derivatives. *Quart. J. Mech. Appl. Math.*, 27 (1974), 523–35.

Short surface waves in the presence of a submerged sphere. *SIAM J. Appl. Math.*, 27 (1974), 464–78.

Short surface waves in the presence of a submerged circular cylinder. *Ibid.*, 479–91.

Small oscillations in a hemispherical lake. *Quart. J. Mech. Appl. Math.*, 28 (1975), 157–79.

DAVIS, A. M. J., O'NEILL, M. E. (with Ranger, K. B.), Some properties of multi-fluid Stokes flows. *Int. J. Multiphase Flow*, 2 (1975), 1–8.

GARDNER, R. J., The regularity of Borel measures and Borel measure-compactness. *Proc. Lond. Math. Soc.*, 30 (1975), 95–113.

HEALY, W. P., Higher multipole moments and dispersion relations in optical activity. *J. Phys.*, B, 7 (1974), 1633–48.

HIDE, R., Origin of Jupiter's magnetic field. *Geophys. J. Roy. Astron. Soc.*, 42 (1975), 64–5.

(with Mason, P. J.), Sloping convection in a rotating fluid. *Advances in Physics*, 24 (1975), 47–100.

HOCKING, L. M., On the structure of instability bursts in three-dimensional parallel flow. *Mathematika*, 21 (1974), 134–46.

JAYNE, J. E., Characterizations and metrization of proper analytic spaces. *Inventiones Math.*, 22 (1973), 51–62.

Continuous images of proper analytic and proper Borel spaces. *Proc. Camb. phil. Soc.*, 75 (1974), 185–91.

The spaces of class α Baire functions. *Bull. Amer. Math. Soc.*, 80 (1974), 1151–6.

Spaces of Baire functions. I. *Ann. Inst. Fourier, Grenoble*, 24 (1974), 47–76.

JOHNSON, F. E. A., On the first end invariant of an exact sequence. *Mathematika*, 22 (1975), 60–70.

KELLY, J. D., The increasing sets lemma, and the approximation of analytic sets from within by compact sets, for measures generated by method. III. *J. Lond. Math. Soc.*, 2 (1974), 29–43.

LARMAN, D. G., On the selection of compact subsets of positive measure from analytic sets of positive measure. *Can. J. Math.*, 25 (1974), 665–77.

On the inner aperture and intersections of convex sets. *Pacific J. Math.*, 55 (1974), 219–32.

A note on the false centre problem. *Mathematika*, 21 (1974), 216–27.

(with Mani, P.), Almost ellipsoidal sections and projections of convex bodies. *Math. Proc. Camb. phil. Soc.*, 77 (1975), 529–46.

McMullen, P., A dice probability problem. *Mathematika*, 21 (1974), 193–8.

Michael, D. H., Norbury, J., O'Neill, M. E., Electrohydrostatic instability in electrically stressed dielectric fluids, Pt I. *J. Fluid Mech.*, 2 (1974), 289–308.

O'Neill, M. E. (with Majumdar, S. R., Brenner, H.), Note on the slow rotation of a concave spherical lens or bowl in two immiscible semi-infinite viscous fluids. *Mathematika*, 21 (1974), 147–54.

Ostaszewski, A. J., A characterization of compact, separable, ordered spaces. *J. Lond. Math. Soc.*, 2 (1974), 758–60.

Power, E. A., Long-range retarded intermolecular forces. *Phys. Rev.*, A, 10 (1974), 756–60.

Vacuum fluctuations and retarded intermolecular forces. *Bull. Amer. Phys. Soc.*, 19 (1974), 664–5.

On the Cooper-Stacey reduction in Dicke coherence due to relative motion. *J. Phys.*, B, 7 (1974), 2149–57.

(with Babiker, M., Thirunamachandran, T.), On a generalization of the Power-Zienau-Woolley transformation in quantum electrodynamics and atomic field equations. *Proc. roy. Soc.*, A, 338 (1974), 235–49.

(with Craig, D. P., Thirunamachandran, T.), Induced circular dichroism: a theoretical description. *Chem. Phys. Letts*, 27 (1974), 149–53.

(with Thirunamachandran, T.), Circular dichroism: a general theory based on quantum electrodynamics. *J. chem. Phys.*, 60 (1974), 3695–701.

(with Thirunamachandran, T.), A generalization of the space-translation method. *J. Phys.*, B, 8 (1975), 167–9.

(with Thirunamachandran, T.), On the matrix element for two-photon absorption. *Ibid.*, 170–2.

Power, E. A., Healy, W. P., Dispersion relations for optically active media. *Amer. J. Phys.*, 42 (1974), 1070–4.

Rogers, C. A., Geometric number theory. *Encyclopaedia Britannica* (15th ed.). Chicago: Benton, 1974. *Macropaedia*, 13 (1974), 373–7.

The supervision of research students. *Bull. Inst. Math. Applic.*, 10 (1974), 251–2.

Stewartson, K., Multistructured boundary layers on flat plates and related bodies. *Advances Appl. Mech.*, 14 (1974), 145–239.

Some aspects of non-linear stability theory. *Fluid Dynamics Trans.*, 7 (1974), 101–28.

(with Roberts, P. H.), On finite amplitude convection in a rotating magnetic system. *Phil. Trans. Roy. Soc.*, 277 (1974), 287–315.

(with Roberts, P. H.), On double-roll convection in a rotating magnetic system. *J. Fluid Mech.*, 68 (1975), 447–66.

PHYSICS AND ASTRONOMY

Aitken, D. K., Jones, B., The infrared spectrum and structure of Eta Carinae. *Mon. Not. R. astr. Soc.*, 172 (1975), 141–7.

Aitken, D. K., Jones, B., Penman, J. M., Recent observations on the 8–13μ

spectra of HII regions. *Proc. 8th ESLAB Symp., 4–7 June 1974, Frascati*, ed. A. F. M. Moorwood. Frascati: ESRO, 1974, 43–8.
Detection of ionized neon in the galactic centre. *Mon. Not. R. astr. Soc.*, 169 (1974), 35–8P.

ALVAREZ, J. A., FURNISS, I., JENNINGS, R. E., KING, K. J., MOORWOOD, A. F. M., Far infrared observations of W51 and the galactic centre. *Proc. 8th ESLAB Symp., 4–7 June 1974, Frascati*, ed. A. F. M. Moorwood. Frascati: ESRO, 1974, 69–78.

ALVAREZ, J. A., JENNINGS, R. E., MOORWOOD, A. F. M., Far infrared measurements of selected optical materials at 1.6°K. *Infrared Phys.*, 15 (1975), 45–9.

ARGYROS, J. D., Photodissociation of H_2^+: variation with temperature. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), 2025–35.

BIRKINSHAW, K. (with Clark, D.), *The Interaction with D^+ and HD.*, University of London Audio-Visual Centre Film, 1975. 15 minutes.
(with Pacák, V., Herman, Z.), Angular distribution studies of ion-molecule reactions. *Interactions between Ions and Molecules*, ed. P. Ausloos. New York: Plenum Press, 1975, 95–121.

BLACK, D. C., An alternative hypothesis for the origin of CCF xenon. *Nature, Lond.*, 253 (1975), 417–19.

BODENHEIMER, P., Neutral currents may blow up heavy supernovae, and cool white dwarfs. *New Scientist*, 65 (1975), 55.

BOKSENBERG, A. (with Sargent, W. L. W.), Doublet structure in the absorption redshifts in the spectrum of Pks 0237–23. *Astrophys. J.*, 198 (1975), 31–43.

BOKSENBERG, A., CARNOCHAN, D. (with Cahn, J., Wyatt, S. P.), The far-ultraviolet spectrum of NGC 6543. *Mon. Not. R. astr. Soc.*, 172 (1975), 395–400.

BOKSENBERG, A., KIRKHAM, B., MICHELSON, E., PETTINI, M. (with others), Interstellar gas studies in the balloon ultraviolet. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 303–16.

BOKSENBERG, A., KIRKHAM, B., PETTINI, M. (with others), Stellar studies in the balloon ultraviolet. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 379–90.

BOKSENBERG, A., SHORTRIDGE, K. (with Fosbury, R. A. E., Penston, M. V., Savage, Ann), New spectrometric results on the quasar 3C 273. *Mon. Not. R. astr. Soc.*, 172 (1975), 289–304.

BOYD, R. L. F., X-ray astronomy. *Electronics and Power*, 21 (1975), 554–6.

BRABBAN, D. H., A comparison of three solar active regions based on their soft X-ray line spectra. *Solar Phys.*, 38 (1974), 449–64.

BROCKLEHURST, M., SALEM, M., Computation of line and continuum radiation from thermal radioastronomical sources. *Comp. Phys. Comm.*, 9 (1975), 258–67.

BULLOCK, F. W., ESTEN, M. J., JONES, T. W., MCKENZIE, J., MICHETTE, A. G. (with Myatt, G., Scott, W. G.), Experimental study of structure functions and sum rules in charge-changing interactions of neutrinos and antineutrinos. *Nucl. Phys.*, B, 85 (1975), 269–88.

BURHOP, E. H. S., The scientist as soldier. *Bull. Atomic Scientists*, 30 (1974), 4–8.
The energy crisis and the maintenance of peace. *Scientific World*, 19 (1975), 3–8.
Reviews of the following:
J. G. Crowther, *The Cavendish Laboratory, 1874–1974. Ibid.*, 22–3.
Margaret Gowing, *Britain and Atomic Energy, 1946–52. Times Higher Ed. Suppl.* (20 December 1974), 17.

CAMPEANU, R. I., HUMBERSTON, J. W., The scattering of p-wave positrons by helium. *J. Phys.*, B, *Atom. Molec. Phys.*, 8 (1975), L244–8.
CANTER, K. F., HEYLAND, G. R., Evidence for a Ramsauer minimum in positron-argon collisions. *Appl. Phys.*, 5 (1974), 231–8.
CARNOCHAN, D. J., DWORETSKY, M. M., TODD, J. J., WILLIS, A. J., WILSON, R., A search for ultraviolet objects. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 479–85.
CARSWELL, R. F. (with Strittmatter, P. A., Williams, R. E.), The spectrum of OH 471 (0642+44). *Astrophys. J.*, 195 (1975), 269–77.
(with others), A cross-dispersed echelette spectrograph and a study of the spectrum of the QSO 1331+170. *Ibid.*, 196 (1975), 351–61.
CHARLES, P. A., CULHANE, J. L., MITCHELL, R. J., ZARNECKI, J. C. (with Fabian, A. C.), The X-ray spectrum of Puppis A. *Mon. Not. R. astr. Soc.*, 170 (1975), 61–5P.
CHARLES, P. A., CULHANE, J. L., RAPLEY, C. G., ZARNECKI, J. C. (with Fabian, A. C.), Recent Copernicus results on the X-ray emission from supernova remnants. *Bull. Am. astr. Soc.*, 7 (1975), 246.
CHARLES, P. A., CULHANE, J. L., ZARNECKI, J. C., Copernicus soft X-ray emission from certain features of the Cygnus loop. *Astrophys. J.*, 196 (1975), L19–22.
(with Fabian, A. C.), Copernicus: the X-ray spectrum of Cassiopeia A. *Ibid.*, 197 (1975), L61–4.
CHARLES, P. A., DAVISON, P. J. N., SANFORD, P. W. (with Bahcall, J. N., Kellogg, E., York, D.), Copernicus: X-ray observations of 3U0750–49. *Mon. Not. R. astr. Soc.*, 171 (1975), 41P.
CHARLES, P. A., LONGAIR, M. S., SANFORD, P. W., Copernicus: X-ray observations of 3C390.3. *Mon. Not. R. astr. Soc.*, 170 (1975), 17P.
CLARK, D. H., PARKINSON, J. H., CASWELL, J. L., Is Cir X-I a runaway binary? *Nature, Lond.*, 254 (1975), 674–6.
COLEMAN, P. G., GRIFFITH, T. C., HEYLAND, G. R., The analysis of data obtained with time-to-amplitude converter and multichannel analyser systems. *Appl. Phys.*, 5 (1974), 223–30.
COLEMAN, P. G., GRIFFITH, T. C., HEYLAND, G. R., KILLEEN, T. L., Positron lifetime spectra for the noble gases. *J. Phys.*, B, *Atom. Molec. Phys.*, 8 (1975), 1734–43. Positronium formation in the noble gases. *Ibid.*, L185–9.
COMBER, C., DAVIS, D. H., GORDON, J., TOVEE, D. N. (with Roosen, R., Vander Velde-Wilquet, C., Wickens, J. H.), The orbital capture of K^--mesons and Σ^--hyperons in liquid helium. *Il Nuovo Cim.*, 24A (1974), 294–300.
CRUISE, A. M., The analysis of data from rotation modulation collimators. *Mon. Not. R. astr. Soc.*, 170 (1975), 165–75.
Aperture synthesis in X-ray astronomy. *Ibid.*, 305–12.
CULHANE, J. L., Galactic X-ray sources. *X-Ray Astronomy and Related Topics*, ed. D. Andresen. Frascati: ESRO, 1975, 1–23.
X-ray astronomy. *Vistas in Astronomy*, 19 (1975), 1–67.
(with Acton, L. W.), The solar X-ray spectrum. *Ann. Rev. Astron. Astrophys.*, 12 (1974), 359–82.
CULHANE, J. L., HAWKINS, F. J. (with Vesecky, J. F.), Upper limits for X-ray emission from Jupiter. *The Magnetospheres of the Earth and Jupiter*, ed. V. Formisano. Amsterdam: D. Reidel, 1975, 231–8.
DAVIS, D. H. (with others), On the binding energy values and excited states of some $A \geqq 10$ hypernuclei. *Nucl. Phys.*, A, 236 (1974), 445–56.

(with others), A determination of the spin of the hypernucleus $^{12}_{\Lambda}$B. *Ibid.*, 238 (1975), 437–52.
(with others), The non-mesonic to π^- mesonic decay ratio and Λ-neutron stimulation fraction for p-shell hypernuclei. *Ibid.*, 234 (1974), 413–28.

DAVIS, D. H., TOVEE, D. N. (with others), The conversion probability and emission ratio of charged Σ-hyperons following K^- meson capture at rest in carbon. *Nucl. Phys.*, A, 241 (1975), 511–23.

DAVISON, P. J. N., CULHANE, J. L., MITCHELL, R. J. (with Fabian, A. C.), An increase in the X-ray flux from Centaurus A. *Astrophys. J.*, 196 (1975), L23–6.

DAVISON, P. J. N., CULHANE, J. L., MORRISON, L. V., Measured offset between the Crab pulsar and Tau X-1. *Nature, Lond.*, 253 (1975), 610–12.

DUFF, B. G., HEYMANN, F. F., IMRIE, D. C., LUSH, G. J., SHARROCK, S. J. (with others), Differential cross sections for elastic-p scattering at 16 momenta between 996 MeV/c and 1342MeV/c. *Nucl. Phys.*, B, 84 (1975), 109–21.
(with others), Measurements of K^+p elastic scattering differential cross sections in the incident momentum range 1368–2259 MeV/c. *Ibid.*, B 61 (1973), 125–54.

DUFF, B. G., PRENTICE, M. (with others), The production of charged particles with high transverse momentum in proton-proton collisions at the CERN ISR. *Nucl. Phys.*, B, 87 (1975), 19–40.

DUFF, B. G., PRENTICE, M., SHARROCK, S. J. (with others), Correlations between charged particles emitted at large angles in high energy proton-proton collisions. *Lettere al Nuovo Cim.*, 11 (1974), 173–6.
(with others), Preliminary results on charged particle production at high transverse momenta in p-p collisions at 90° at the CERN ISR. *Proc. II Int. Conf. Elementary Particles. J. Phys.*, 34 (1973), 407–8.

DUFF, M. J. B., WATSON, D. M., CLIP 3: a cellular logic image processor. *New Concepts and Technologies in Parallel Information Processing. Proc. NATO Advanced Study Inst., 17–30 June 1973, Capri*, ed. E. R. Caianiello. The Hague: Noordhoff, 1974, 75–86.
(with Deutsch, E. S.), A parallel computer for array processing. *Information Processing 1974. Proc. IFIP Congr., Sweden, August 5–10, 1974*, ed. J. L. Rosenfeld. Amsterdam: North-Holland, 1974, 94–7.
(with Stamopoulos, C. D.), Some aspects of the logic functions of CLIP 3. *Proc. NATO Advanced Study Inst., 17–30 June 1973, Capri*, ed. E. R. Caianiello. The Hague: Noordhoff, 1974, 87–103.

EISSNER, W., SEATON, M. J., Electron impact excitation of metastable levels in O^{2+}. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), 2533–48.

EVANS, R. G., WILSON, R. (with Jordan, C.), Ultraviolet emission lines in the spectrum of Procyon. *Nature, Lond.*, 253 (1975), 612–13.
(with Nandy, K.), Preliminary observations of the Magellanic clouds with the ultraviolet sky survey telescope. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 473–7.

FURNISS, I., JENNINGS, R. E., MOORWOOD, A. F. M., Far infrared photometry of HII regions. *Proc. 8th ESLAB Symp., 4–7 June 1974, Frascati*, ed. A. F. M. Moorwood. Frascati: ESRO, 1974, 61–8.
Observations of W3 in the 40–350 μm band. *Ibid.*, 89–90.

GERMOND, J.-F., WILKIN, C., Pion-carbon scattering in the α-particle model. *Nucl. Phys.*, A, 237 (1975), 477–92.

GLENCROSS, W. M., BRABBAN, D. H., A high resolution spectroheliograph operating at soft X-ray wavelengths. *Space Sci. Instrum.*, 1 (1975), 5–15.

GLENCROSS, W. M., DORLING, E. B., HERRING, J. R. H., Observations of very small soft X-ray flares. *Solar Phys.*, 38 (1974), 183–92.

GONDHALEKAR, P. M., WILSON, R., The interstellar ionization balance due to ultraviolet radiation. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 331–6.

The interstellar radiation field between 912 Å and 2740 Å. *Astron. & Astrophys.*, 38 (1975), 329–33.

GROVES, G. V., Calculated and observed 24-hourly oscillations of the upper atmosphere at 5.9°S latitude. *J. Brit. Interplan. Soc.*, 28 (1975), 127–33.

A comparison of 24-hourly atmospheric oscillations derived from grenade experiments at two low latitude sites. *Ibid.*, 241–4.

GUEST, J. E., Principles of extraterrestrial geological mapping. *A Primer in Lunar Geology*, ed. R. Greeley and P. Schultz. California: NASA Ames Research Center, 1974, 193–7 (ch. VI).

Mercury. *New Science in the Solar System*, ed. Peter Stubbs. London: International Printing Corporation, 1975, 12–16 (ch. III).

(with Strom, R. G., Trask, N. J.), Tectonism and volcanism on Mercury. *J. Geophys. Res.*, 80 (1975), 2478–507.

(with Trask, N. J.), Preliminary geologic/terrain map of Mercury. *Ibid.*, 2461–77.

(with Wadge, G., Walker, G. P. L.), The output of the Etna volcano. *Nature, Lond.*, 255 (1975), 385–6.

(with others), Preliminary imaging results from the second encounter with Mercury. *J. Geophys. Res.*, 80 (1975), 2345–56.

(with others), Recent eruption of Mount Etna. *Nature, Lond.*, 250 (1974), 385–7.

GUEST, J. E., MURRAY, J. B. (with Gault, D., Dzurisin, D., Malin, M. C.), Some comparisons of impact craters on Mercury and the Moon. *J. Geophys. Res.*, 80 (1975), 2444–60.

HASTED, J. B., AFSAR, M. N., ZAFAR, M. S. (with Chamberlain, J., Davies, G. J.), Dispersion of alcohols and water in the submillimetre waveband. *Nature, Lond.*, 255 (1975), 319–21.

HASTED, J. B., BIRKINSHAW, K., MAKDHIS, Y. Y., Charge transfer collisions between doubly charged ions and atoms. *Abstr. 7th Nat. Atomic and Molecular Physics Conf., Edinburgh, 7–11 April 1975*, ed. A. G. A. Rae. London: Institute of Physics, 1975, 17.

HASTED, J. B., ZAFAR, M. S. (with Chamberlain, J.), Comment on 'The Origin of the Far Infrared Polarization of Liquid Water' by E. Whalley. *Nature, Lond.*, 251 (1974), 218.

HAWKINS, F. J., Introduction to the Copernicus satellite. *Proc. roy. Soc. Lond.*, A, 340 (1974), 397–405.

HAWKINS, F. J., MASON, K. O., SANFORD, P. W., Copernicus: new positions for Cygnus X-1 and 3UO352 + 30 (X Per?). *Astrophys. Letts*, 16 (1975), 16–21.

(with others), Infrared, radio and X-ray observations of Cygnus X-3. *Astrophys. J.*, 192 (1974), L119–24.

HAWKINS, F. J., MASON, K. O., SANFORD, P. W., CULHANE, J. L., Copernicus: the X-ray structure of the Crab nebulae. *Mon. Not. R. astr. Soc.*, 169 (1974), 41–5P.

HAYES, M. A., Calculated collision strengths for electron impact excitation of N V. *J. Phys.*, B, *Atom. Molec. Phys.*, 8 (1975), L8–11.

HERRING, J. R. H., A two component thermal model of X-ray burst sources. *Solar Phys.*, 39 (1974), 175–92.

IVES, J. C., SANFORD, P. W., BELL BURNELL, S. J., Observations of a transient X-ray source with regular periodicity of 6.75 min. *Nature, Lond.*, 254 (1975), 578–80.

JENNINGS, R. E., Astronomical observations with the University College London balloon-borne telescope. *Proc. Symp. Telescope Systems for Balloon-borne Research, February 1974, NASA Ames Research Center*, ed. C. Swift and F. C. Witterborn. California: NASA Technical Memorandum X-62, 397 (1974), 17.

JOHNSTONE, A. D., A model of the magnetic substorm. *Nature, Lond.*, 250 (1974), 552–3.

Time dependent effects of a parallel electric field. *European Sounding Rocket and Scientific Balloon Activity at High Latitudes with Emphasis on Internal Magnetospheric Study*. Paris: ESRO, 1975, 255–60.

(with Bryant, D. A.), Plasmas of the magnetosphere. *Ibid.*, 85–102.

JONES, M., Application of the Breit-Pauli approximation to the study of relativistic effects in electron-atom scattering. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), L284–5.

A method for calculating the algebra of matrix elements for photoionization and line radiation. *Comp. Phys. Comm.*, 7 (1974), 353–67.

Collision strengths for the electron-impact excitation of certain highly-ionized helium-like ions. *Mon. Not. R. astr. Soc.*, 169 (1974), 211–27.

On the use of the Breit-Pauli approximation in the study of relativistic effects in electron-atom scattering. *Phil. Trans. R. Soc. Lond.*, A, 277 (1975), 587–622.

KOSMIDER, R. G., HASTED, J. B., Collision processes of drifting O^+ and N^+ ions. *J. Phys.*, B, 8 (1975), 273–89.

MCNALLY, D., *Positional Astronomy*. London: Muller Educational, 1975. 375 + xiii pp.

MARTIN, D. R. (with Devenish, R. C. E.), Duality and πN charge-exchange data. *Phys. Rev.*, D10 (1974), 78–9.

(with Elvekjaer, F.), The structure of t-channel exchanges in KN scattering. *Nucl. Phys.*, B, 75 (1974), 388–400.

(with Froggatt, C. D., Devenish, R. C. E.), Analysis of $\pi N \rightarrow K\Lambda$ and $\bar{K}N \rightarrow \pi\Lambda$ using fixed-t dispersion relations, FESR and duality. *Ibid.*, 81 (1974), 330–48.

MASON, H. E., The excitation of several iron and calcium lines in the visible spectrum of the solar corona. *Mon. Not. R. astr. Soc.*, 170 (1975), 651–89.

The interpretation of the forbidden emission lines from a coronal condensation. *Ibid.*, 171 (1975), 119–30.

MASON, K. O., CHARLES, P. A., Is μ Columbae the X-ray source 3UO545-32? *Mon. Not. R. astr. Soc.*, 169 (1974), 73P.

MASON, K. O., HAWKINS, F. J., SANFORD, P. W. (with Margon, B.), Soft X-ray observations of Cen X-3 from Copernicus. *Astrophys. J.*, 196 (1975), L51–3.

(with Murdin, P., Savage, A.), X-ray absorption events in Cygnus X-1 observed with Copernicus. *Ibid.*, 192 (1974), L65–9.

(with others), Optical and X-ray observations of 3UO614+09. *Ibid.*, 193 (1974), L25–9.

MASON, K. O., SANFORD, P. W. (with Margon, B.), A search for X-ray emission from Red-Giant coronae. *Astrophys. J.*, 194 (1974), L75–7.

MASON, K. O., SANFORD, P. W., HAWKINS, F. J. (with others), Measurements

of the position of X-ray sources with Copernicus. *Mon. Not. R. astr. Soc.*, 169 (1974), 7–23.

MASSEY, H. S. W., Theories of the ionosphere—1930–1955. *J. atmos. terr. Phys.*, 36 (1974), 2141–58.

Atomic energy and the development of large teams and organisations. *Proc. R. Soc. Lond.*, A, 342 (1975), 491–7.

Contributor to Memorial meeting for Lord Blackett, O.M., C.H., F.R.S. *Notes and Records of the Roy. Soc.*, 29 (1975), 138–40.

(with Hara, S.), Annihilation of positrons in Ar-CO mixtures. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), L362–3.

MASSEY, H. S. W., BURHOP, E. H. S. (with Gilbody, H. B.), *Electronic and Ionic Impact Phenomena*. Vol. 5, *Slow Positron and Muon Collisions—and Notes on Recent Advances*. Oxford: Clarendon Press, 1974. 566 pp.

MOORES, D. L. (with Norcross, D. W.), Alkali-metal negative ions. I. Photodetachment of Li^-, Na^- and K^-. *Phys. Rev.*, A, 10 (1974), 1646–57.

(with Norcross, D. W.), Calculation of the photodetachment cross sections of the alkali negative ions Li^-, Na^- and K^- and the determination of the electron affinities of the alkali metals. *Vacuum*, 24 (1974), 531.

NEWELL, W. R. (with others), Ejected electron spectrum of caesium autoionizing levels obtained by electron impact excitation. *J. Phys.*, B, *Atom. Molec. Phys.*, 8 (1975), L113–16.

PEACH, G., The width of spectral lines. *Contemporary Physics*, 16 (1975), 17–34.

PIDCOCK, M., Crossing sum rules and the $\pi^0\pi^0 \rightarrow \pi^0\pi^0$ g-wave. *Nucl. Phys.*, B, 83 (1974), 253–68.

PRADHAN, A. K., Electron impact excitation of Ne^{2+}. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), L503–8.

RAITT, W. J., The temporal and spatial development of mid-latitude thermospheric electron temperature enhancements during a geomagnetic storm. *J. Geophys. Res.*, 79 (1974), 4703–8.

(with Banks, P. M., Schunk, R. W.), Temperature and density structure of thermal proton flows. *Ibid.*, 4691–702.

(with Banks, P. M., Schunk, R. W.), NO^+ and O^+ in the high latitude F-region. *Geophys. Res. Lett.*, 1 (1974), 239–42.

(with Schunk, R. W., Banks, P. M.), A comparison of the temperature and density structure in high and low speed thermal proton flows. *Planet Space Sci.*, 23 (1975), 1103–17.

(with von Zahn, U., Christopherson, P.), A comparison of thermospheric neutral gas heating and related thermal and energetic plasma phenomena at high latitudes during geomagnetic disturbances. *J. geophys. Res.*, 80 (1975), 2277–88.

RAITT, W. J., DORLING, E. B., SHEATHER, P. H. (with Blades, J.), Ionospheric measurements from the ESRO-4 satellite. *Planet Space Sci.*, 23 (1975), 1085–101.

RAPLEY, C. G., Absorption of soft X-rays by material within Gould's belt. *Nature, Lond.*, 255 (1975), 41–2.

RAPLEY, C. G., CULHANE, J. L. (with Catura, R. C., Joki, E. G., Bakke, J. C.), A new type of crystal spectrometer for solar X-ray studies. *Mon. Not. R. astr. Soc.*, 168 (1974), 217–20.

RAPLEY, C. G., TUOHY, I. R., X-ray observations of the large magellanic cloud by the Copernicus satellite. *Astrophys. J.*, 191 (1974), L113–16.

REES, D. (with Sandford, M. C. W.), Thermospheric winds from laser tracking of sodium clouds. *Nature, Lond.*, 252 (1974), 291–2.

SALEM, M., Ilthii—analysis of the spectrum of a thermal radioastronomical source. *Comp. Phys. Comm.*, 9 (1975), 247–57.

SANFORD, P. W., X-ray observations of variable sources. *Proc. roy. Soc. Lond.*, A, 340 (1974), 411–22.

SANFORD, P. W., HAWKINS, F. J., MASON, K. O. (with others), Optical observations of stars near Copernicus X-ray positions. *Mon. Not. R. astr. Soc.*, 169 (1974), 25–34.

SANFORD, P. W., IVES, J. C., BELL BURNELL, S. J., MASON, K. O. (with Murdin, P.), Ariel V and Copernicus measurements of the X-ray variability of Cyg X-1. *Nature, Lond.*, 256 (1975), 109–11.

SEATON, M. J., Astrophysical applications of atomic physics. *Atoms, Molecules and Lasers*. Vienna: International Atomic Energy Agency, 1974, 261–82.

Computer programs for the calculation of electron-atom collision cross sections. II. A numerical method for solving the coupled integro-differential equations. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), 1817–40.

Temperatures of gaseous nebulae—a decade of depression. *Quart. J. R. astr. Soc.*, 15 (1974), 370–91.

Collision strengths for [N II], [O III], [Ne II] and [Ne III]. *Mon. Not. R. astr. Soc.*, 170 (1975), 475–86.

(with Salem, M.), On the interpretation of continuum flux observations from thermal radio sources. I. Continuum spectra and brightness contours. *Ibid.*, 167 (1974), 493–510.

THOMAS, R. M., DAVISON, P. J. N., CLANCY, M. C., BUSELLI, G., Southern hard X-ray sources. *Mon. Not. R. astr. Soc.*, 170 (1975), 569–77.

TOMLINSON, H. S., TOWLSON, W. A., VENIS, T. E., Design and performance of a 39 cm. balloon-borne telescope. *Proc. Symp. Telescope Systems for Balloon-borne Research, February 1974, NASA Ames Research Center*, ed. C. Swift and F. C. Witterborn. California: NASA Technical Memorandum X-62, 397 (1974), 58–69.

TUOHY, I. R., CRUISE, A. M., Observation of an accretion wake and pre-eclipse dips in Centaurus X-3. *Mon. Not. R. astr. Soc.*, 171 (1975), 33–9P.

TUOHY, I. R., RAPLEY, C. G., Variability of the X-ray sources in the magellanic clouds. *Astrophys. J.*, 198 (1975), L69–72.

WILKIN, C. (with Hüfner, J., Tauscher, L.), An analysis of pion-nucleus scattering lengths within an α-cluster model. *Nucl. Phys.*, A, 231 (1974), 455–61.

(with Saudinos, J.), Proton-nucleus scattering at medium energies. *Ann. Rev. Nucl. Sci.*, 24 (1974), 341–77.

WILSON, R. (with McWhirter, R. W. P.), The spectroscopy of plasmas carrying sound waves. I. Spectral intensities. *J. Phys.*, B, *Atom. Molec. Phys.*, 7 (1974), 1588–601.

(with others), Preliminary results of ultraviolet interstellar extinction from TD1 satellite observations. *Phil. Trans. R. Soc. Lond.*, A, 279 (1975), 337–43.

WRENN, G. L., Satellite measurements of photoelectron fluxes. *Ann. Geophys.*, 30 (1974), 49–57.

Geos particle experiments. *European Sounding Rocket and Scientific Balloon Activity at High Latitudes with Emphasis on the International Magnetospheric Study*. Paris: ESRO, 1975, 159–65.

WRENN, G. L., RAITT, W. J., In situ observations of midlatitude ionospheric

phenomena associated with the Plasmapause. *Ann. Geophys.*, 31 (1975), 17–28.

WYNTER, A. P., HASTED, J. B., Molecular beam detection using electron impact ionization. *J. Phys.*, E, 7 (1974), 627–34.

ZARNECKI, J. C. (with Adams, P. J.), X-ray observations of supernova remnants by Copernicus. *Supernovae and Supernova Remnants*, ed. C. B. Cosmovici. Dordrecht: D. Reidel, 1975, P243–50.

PSYCHOLOGY

AUDLEY, R. J., CAUDREY, D. J., HOWELL, P., POWELL, D. J., Reaction time exchange functions in choice tasks. *Attention and Performance*, vol. 5, ed. P. M. A. Rabbitt. New York and London: Academic Press, 1975, 281–95.

CROMER, R. F., Receptive language in the mentally retarded: processes and diagnostic distinctions. *Language Perspectives: Acquisition, Retardation and Intervention*, ed. R. L. Schiefelbusch and L. L. Lloyd. Baltimore: University Park Press, 1974, 237–67.

Acquisition of grammar. *Child Alive*, ed. Roger Lewin. London: Temple Smith, 1975, 98–110.

Are subnormals linguistic adults? *Language, Cognitive Deficits and Retardation*, ed. N. O'Connor. London: Butterworths, 1975, 169–87.

Perceptual organization or memory reorganization? *Proc. III Congr. I.A.S.S.M.D.*, ed. D. A. Primrose. Warsaw: Polish Medical Publishers, 1975, 493–5.

Ducks and wolves and learning to talk. *New Scientist*, 63 (1974), 808–10.

DE MONCHAUX, CECILY (with Sarason, I. G., Hunt, T.), Methodological issues in the assessment of life stress. *Emotions: Their Parameters and Measurement*, ed. L. Levi. New York: Raven Press, 1975, 217–25.

DIXON, N. F., HENLEY, S. H. A., Laterality effects in perceptual matching. *Perception*, 3 (1974), 99–100.

DOWNER, J. L., DE C. (with Harvey, H. L.), Traumatic production of an intracranial berry-like aneurysm in a monkey. *Acta neuropath.*, 31 (1975), 263–6.

DOWNS, SYLVIA, Employment: on the underground. *New Behaviour*, 1 (1975), 174.

FARR, R. M., Social psychology and psychoanalysis: a rejoinder to Professor Jahoda. *Bull. Brit. Psychol. Soc.*, 26 (1975), 143–8.

FRITH, UTA, A curious effect with reversed letters explained by a theory of schema. *Perception & Psychophysics*, 16 (1974), 113–16.

Scanning for reversed and rotated targets. *Acta Psychol.*, 38 (1974), 343–9.

GREEN, D. W., The effects of task on the representation of sentences. *J. Verb. Learning & Verb. Behav.*, 14 (1975), 73–81.

HENLEY, SUSAN H. A., Cross-modal effects of subliminal stimuli. *Scand. J. Psychol.*, 16 (1975), 30–6.

HENLEY, SUSAN H. A., DIXON, N. F., Laterality differences in the effects of incidental stimuli upon evoked imagery. *Brit. J. Psychol.*, 65 (1974), 529–36.

HERMELIN, BEATE, O'CONNOR, N., Rules and structures: some studies with autistic children. *Mental Deficiency: The Changing Outlook* (3rd ed.), ed. A. M. Clarke and A. D. B. Clarke. London: Methuen, 1974, 350–66 (ch. XII).

Seeing, speaking and ordering. *Language, Cognitive Deficits, and Retardation*, ed. N. O'Connor. London: Institute for Research into Mental and Multiple Handicap and Butterworths, 1975, 129–42 (ch. VII).

Location and distance estimates by blind and sighted children. *Quart. J. exp. Psychol.*, 27 (1975), 295–301.
The recall of digits by normal, deaf and autistic children. *Brit. J. Psychol.*, 66 (1975), 203–9.
MALIPHANT, R., Educational psychology: testing testing? *Bull. Brit. Psychol. Soc.*, 27 (1974), 441–6.
Cognitive processes and educational attainments of socially-handicapped children: a pilot experimental study of reading. *SSRC Report* (*HR 1405*) (1974), 1–66.
MOTTRAM, R. D., The management of human resources. A survey of the problems and the role of research in solving them. *Industr. & Comm. Training*, 7 (1975), 267–78.
OAKLEY, D. A., The effect of conditional stimulus modality on unconditional response conservation. *IRCS Medical Science: Psychology*, 3 (1975), 235.
OAKLEY, D. A., PLOTKIN, H. C., Nictitating membrane conditioning using short-duration shock as the unconditional stimulus. *IRCS Research on Psychology*, 2 (1974), 1589.
Ontogeny of spontaneous locomotor activity in rabbit, rat and guinea pig. *J. comp. Physiol. Psychol.*, 89 (1975), 267–73.
Backward conditioning in the rabbit (Oryctolagus cuniculus). *Ibid.*, 88 (1975), 586–90.
(with Yeo, A. G.), Primary and secondary shifts in conditional response latency in rabbit nictitating membrane conditioning. *IRCS Research on Psychology*, 2 (1974), 1655.
(with Yeo, A. G.), The effect of conditional stimulus termination on instrumental nictitating membrane responses in rabbits. *IRCS Medical Science*, 3 (1975), 197.
OAKLEY, D. A., RUSSELL, I. S., Differential and reversal conditioning in partially neodecorticate rabbits. *Physiol. Behav.*, 13 (1974), 221–30.
Frustrative non-reward in neodecorticate rabbits. *IRCS Research on Neurobiology and Neurophysiology*, 2 (1974), 1611.
Ipsilateral vs. contralateral hemidecortication: a lack of differential effect on conditioning. *Ibid.*, 1665.
Survival following serial neodecortication as a function of the interlesion interval. *Ibid.*, 1668.
O'CONNOR, N., Editor, *Language, Cognitive Deficits, and Retardation*. London: Institute for Research into Mental and Multiple Handicap and Butterworths, 1975. 233 pp.
Brain function in mental handicap. *Mental Deficiency*. London: Churchill Livingstone, 1975, 195–219.
Memory coding order in deaf and abnormal subjects. *J. Psychol. Res. in Mental Subnormality*, 1 (1974), 3–7.
O'CONNOR, N., HERMELIN, BEATE, Specific deficits and coding strategies. *Mental Deficiency: The Changing Outlook* (3rd ed.), ed. A. M. Clarke and A. D. B. Clarke. London: Methuen, 1974, 330–49 (ch. XI).
Modality specific spatial coordinates. *Perception & Psychophysics*, 17 (1975), 213–16.
POWELL, D. J. (with Walker, P.), Lateral interaction between neural channels sensitive to velocity in the human visual system. *Nature, Lond.*, 252 (1974), 732–3.

RAWLES, R. E., Retrieval strategies for the map in the head. *Bull. Brit. Psychol. Soc.*, 28 (1975), 251.
Films for psychology. *Psychol. Teaching*, 3 (1975), 115–31.

RIPPERE, VICTORIA L., Schiller and 'alienation'. A problem in the transmission of his aesthetic and philosophic thought. *Germanistishe Dissertationen in Kurzfassung*, ed. H-G. Roloff. Bern: Herbert Lang, 1975, 213–14.

RUSSELL, I. S., Experimentally induced amnesia of long-term memory in rats. *Proc. XXVI Int. Union Physiol. Sci.*, xi (1974), 192.
Crossmodal perception in chimpanzees. *Int. Congr. Coll. Int. Act. Nerv. Sup. 11*, 1 abstracts (1975), 165.
Loss of long-term memory in rats induced by prolonged cortical spreading depression. *Brain Res.*, 85 (1975), 187.
(with Davenport, R. K., Rogers, C. M.), Crossmodal perception in apes: altered visual cues and delay. *Neuropsychologia*, 13 (1975), 229–35.
(with Goodman, E. D.), Split-brain rat: a new surgical approach. *Physiol. & Behav.*, 13 (1974), 327–30.
(with Morgan, S. C.), Effects of hemidecortication on learning and memory. *Int. Congr. Coll. Int. Act. Nerv. Sup. 11*, 1 abstracts (1975), 55.
(with Safferstone, J. F.), Interocular transfer and stimulus control of visual discriminations in the rat. *Brain Res.*, 66 (1974), 355–6.

STATISTICS AND COMPUTER SCIENCE

BROOKS, R. J., On the choice of an experiment for prediction in linear regression. *Biometrika*, 61 (1974), 303–11.
Bayesian analysis of the two-sample problem under the Lehmann alternatives. *Ibid.*, 501–6.

DAWID, A. P., On the concepts of sufficiency and ancillarity in the presence of nuisance parameters. *J. R. statist. Soc.*, B, 37 (1975), 248–58.

DUMOUCHEL, W. H., Stable distributions in statistical inference. 2. Information from stably distributed samples. *J. Amer. Stat. Assoc.*, 70 (1975), 386–93.

FEARN, T., A Bayesian approach to growth curves. *Biometrika*, 62 (1975), 89–100.

HIGGINSON, P. L., KIRSTEIN, P. T., STOKES, A. V., The problems of connecting hosts into ARPANET via front-end computers. *Proc. European Computer Workshop Ser.*, '*Distributed Computer Systems*'. Darmstadt: G.M.D., 1974.

KIRSTEIN, P. T., International general purpose networks, exploitation of seismic networks. *N.A.T.O. Advanced Study Inst.*, ser. E, *Applied Science*, vol. 11, ed. K. G. Beauchamp. Leyden: Noordhoff, 1975, 89–116.
U.K. experiences with the ARPA computer network. *Ibid.*, 55–8.
A survey of present and planned general purpose European data and computer networks, computer communications network. *Ibid.*, vol. 4, ed. R. L. Grimsdale and F. F. Kuo. Leyden: Noordhoff, 1975, 257–76.
Developments of public data networks. *Computer Weekly Suppl.* (17 October 1975), 1–2.

LINDLEY, D. V., Probability and medical diagnosis. *J. roy. Coll. Phycns, Lond.*, 9 (1975), 197–204.
The role of utility in decision-making. *Ibid.*, 225–30.

SMITH, A. F. M. (with Goldstein, M.), Ridge-type estimators for regression analysis. *J. R. statist. Soc.*, B, 36 (1974), 284–91.
(with Goldstein, M.), Ridge regression: some comments on a paper of Conniffe and Stone. *The Statistician*, 24 (1975), 61–6.
(with Machi, A.), Translators, *Theory of Probability*, vol. 2 by Bruno de Finetti. New York: Wiley, 1975. 375 pp.

STOKES, A. V., Annotated bibliography for 'Network Systems and Software'. *Infotech State of the Art Report*, 24 (1975), 629–46.

STONE, M., Cross-validatory choice and assessment of statistical predictions with discussion. *J. R. statist. Soc.*, B, 36 (1974), 111–47.
Cross-validation and multinomial prediction. *Biometrika*, 61 (1974), 509–14.

WILBUR, S. R., BATES, D. L., Design of IMPATT diodes, CAD'74. *Proc. Int. Conf. Computers in Engineering and Building Design, Fiche* (1974), 296–30A.

WOLFENDEN, K. (with Vickers, M. D.), Time-sharing as a method of providing computing power to the smaller hospital. *Medinfo 74*, ed. J. Anderson and M. Forsythe. Amsterdam: North-Holland, 1974, 59–62.

ZOOLOGY AND COMPARATIVE ANATOMY

BROWN, G., GREAVES, M. F. (with others), Expression of human T and B lymphocyte cell-surface markers on leukaemic cells. *Lancet*, ii (1974), 753–5.

FELDMAN, M., T cell suppression *in vitro*. I. Role in regulation of antibody responses. *Eur. J. Immunol.*, 4 (1974), 660–6.
II. Nature of specific suppressive factor. *Ibid.*, 667–74.
Cell to cell interactions in the immune response. *Ser. Haemat. VII*, 4 (1974), 593–609.
(with Huchet, R.), Tolerance induction to a hapten protein conjugate *in vivo*: are suppressor T cells involved? *Eur. J. Immunol.*, 4 (1974), 768–71.
(with Pepys, M. B.), Role of C_3 in *in vitro* lymphocyte cooperation. *Nature, Lond.*, 249 (1974), 159.

FELDMAN, M., ERB, P., GORCZYNSKI, R., GREAVES, M. F., HOGG, N., KONTIAINEN, S., PARKER, D. C. (with others), Interactions between T and B lymphocytes and accessory cells in antibody production. *Progress in Immunology*, vol. II, ed. L. Brent and J. Holborow. Amsterdam: North-Holland, 1974, 65–75.

FELDMAN, M., GREAVES, M. F., PARKER, D. C. (with Rittenberg, M. B.), Direct triggering of B lymphocytes by insolublized antigens. *Eur. J. Immunol.*, 4 (1974), 591–7.

FOX, H., The epidermis and its degeneration in the larval tail and adult body of *Rana temporaria* and *Xenopus laevis* (Amphibia: Anura). *J. Zool., Lond.*, 174 (1974), 217–35.

FREEMAN, R. B., *Classification Del Reino Animal Guia Ilustrada*. Ediciones Universidad de Navarra. Pamplona: Baranain, 1975. 55 pp.

GREAVES, M. F. (with Hayward, A. R.), Central failure of B lymphocyte induction in pan-hypogammaglobulinaemia. *Clin. Immunol. & Immunopathol.*, 3 (1975), 461–70.

GREAVES, M. F., BROWN, G. (with Rickinson, A. B.), Epstein-Barr virus binding sites on lymphocyte subpopulations and the origin of lymphoblasts in cultured lymphoid cell lines and in the blood of patients with infectious mononucleosis. *Clin. Immunol. & Immunopathol.*, 3 (1975), 514–24.

GREAVES, M. F., JANOSSY, G. (with Doenhoff, M.), Polyclonal mitogens and the nature of B lymphocyte activation mechanisms. *The Immune System: Genes, Receptors and Signals*, ed. E. Sercarz and A. Williamson. New York: Academic Press, 1974, 271–97.
(with Doenhoff, M.), Activation of human T and B lymphocytes by polyclonal mitogens. *Nature, Lond.*, 248 (1974), 698–701.
HEAYSMAN, J. E. M. (with Abercrombie, M.), Observations on the social behaviour of cells in tissue culture. II. 'Monolayening' of fibroblasts. *Exptl Cell. Res.*, 6 (1954), 293–306. (Reprinted in *Readings in Mammalian Cell Culture*, ed. R. Pollock. Cold Spring Harbor Laboratory, 1974.)
JANOSSY, G., GREAVES, M. F., Functional analysis of murine and human B lymphocyte subsets. *Transpl. Rev.*, 24 (1975), 177–236.
(with Doenhoff, M. J., Gomer, K. J.), Lymphocyte activation. VI. A re-evaluation of factors affecting the selectivity of polyclonal mitogens for mouse T and B cells. *Clin. exp. Immunol.*, 17 (1974), 475–90.
KNIGHT, R. A., LEECH, S. H., MITCHISON, N. A., SHELLAM, G. R., Three ways of using immunology to investigate the cell surface: cocapping, helper determinants and immunogenecity. *Proc. VII Miles Symp.*, ed. R. F. Beers, Jr, R. C. Tilgham and E. G. Bassett. *The Johns Hopkins Med. J.*, 3 (1974), 425–33.
KNIGHT, R. A., MITCHISON, N. A., SHELLAM, G. R., Studies on a gross-virus-induced lymphoma in the rat. II. The role of cell membrane associated and serum P30 antigen in the antibody and cell mediated response. *Int. J. Cancer*, 15 (1975), 417–28.
MARTIN, S. E., Mouse brain antigen detected by rat anti-C1300 antiserum. *Nature, Lond.*, 249 (1974), 71–3.
MITCHISON, N. A., Influence of immunological status on susceptibility, acquired. *Proc. Conf. Host-Environment Inter-Actions in the Etiology of Cancer in Man—Implementation of Research*, ed. J. Higginson. Geneva: WHO Publications, 1974, 275–84.
Approaches to the control of immunological diseases in man—prospects of immunological tolerance in man. *Proc. 8th Congr. Int. Assoc. Allergology*. Amsterdam: Excerpta Medica, 1974, 338–46.
(with Gorczynski, R., Kontiainen, S., Tigelarr, R. E.), Antigen-antibody complexes as blocking factors on the T lymphocyte surface. *Cellular Selection and Regulation in the Immune Response*, ed. G. M. Edelman. New York: Raven Press, 1974, 143–54.
(with Howard, J. G.), Immunological tolerance. *Progress in Allergy*, 18 (1975), 43–96.
(with Kontiainen, S.), Blocking antigen-antibody complexes on the T lymphocyte surface identified with defined protein antigens. I. Lymphocyte activation during *in vitro* incubation before transfer. *Immunology*, 28 (1975), 523–34.
O'DELL, D. S., Lectin-binding studies of changes in cell surface membranes during development. *Ontogenez*, 6 (1975), 318 (in Russian).
(with Tencer, R., Monroy, A., Brachet, J.), The pattern of concanavalia A-binding sites during the early development of *Xenopus laevis*. *Cell Differentiation*, 3 (1975), 193–8.
(with Vacquiver, V. D.), Concanavalin A inhibits the dispersion of the cortical granules of sand dollar eggs. *Exptl Cell. Res.*, 90 (1975), 465–8.
OWEN, J. J. T., RAFF, M. C. (with Cooper, M. D.), *In vitro* generation of

B lymphocytes in mouse foetal liver—a mammalian 'bursa equivalent'. *Nature, Lond.*, 249 (1974), 361–3.

OWEN, J. J. T., SEEGER, R. C. (with Souhami, R.), A method for growing, freeze-storing and isotopically-labelling human tumour cells for *in vitro* assays of tumour immunity. *J. Immunol. Methods*, 5 (1974), 137–46.

PRESTON, T. M., O'DELL, D. S., The cell surface of *Naegleria*. *J. Protozool.*, 21 (1974), 451.

Studies on the amoeboid and flagellate stages of *Naegleria*. *Int. Colloq. Primary Amoebic Meninto-encephalitis and Free Living Amoebae, Antwerp, 1973. Ann. Soc. Belg. Med. trop.*, 54 (1974), 279–86.

RAFF, M. C. (with de Petris, S.), Ultrastructural distribution and redistribution of alloantigens and Concanavalin A receptors on the surface of mouse lymphocytes. *Eur. J. Immunol.*, 4 (1974), 130–7.

ROBINSON, P. L., A problematic reptile from the British Upper Trias. *J. geol. Soc. Lond.*, 129 (1973), 457–79.

SEEGER, R. C., OWEN, J. J. T. (with Rayner, S.), An analysis of variables affecting the measurement of tumour immunity *in vitro* with ^{125}I-iododeozyuridine labelled target cells: studies of immunity to primary moloney sarcomas. *Int. J. Cancer*, 13 (1974), 697–713.

SHELLAM, G. R., Studies on a Gross virus-induced lympho a in the rat. I. The cell-mediated immune response. *Int. J. Cancer*, 14 (1974), 65–82.

THOMPSON, E. J. (with Schrier, B. K.), On the role of glial cells in the mammalian nervous system. *J. Biol. Chem.*, 249 (1974), 1779–96.

WHITEAR, M., Flask cells and epidermal dynamics in frog skin. *J. Zool. Lond.*, 175 (1975), 107–49.

FACULTY OF ENGINEERING

CHEMICAL ENGINEERING

ANG, H-M., MULLIN, J. W., Effect of age of reactant solutions on the precipitation of nickel ammonium sulfate hexahydrate. *Anal. Chem.*, 46 (1974), 1588–9.

BARNARD, J. A., COCKS, A. T., LEE, R. K-Y., Kinetics of the thermal unimolecular reactions of cyclopropane and cyclobutane behind reflected shock waves. *J. chem. Soc. Faraday I*, 70 (1974), 1782–92.

BARNARD, J. A., SHEIKH, M. A., The effect of various surfaces on the slow combustion of some ketones. *Pakist. J. scient. ind. Res.*, 17 (1974), 55–8.

BUCKLAND, B. C., DUNNILL, P., LILLY, M. D., The enzymatic transformation of water-insoluble reactants in nonaqueous solvents. Conversion of cholesterol to cholest-4-ene-3-one by a *Nocardia* sp. *Biotechnol. & Bioengng*, 17 (1975), 815–26.

BURGESS, A. R., FELLINGHAM, L. R., An analysis of a modulated molecular beam sampling system and mass spectrometer detector. *Proc. 5th Int. Symp. on Molecular Beams, Nice, France, 1975*, Paper A6.

CHIBA, T., NIENOW, A. W., ROWE, P. N., Solids segregation in gas fluidised beds with high jetsam concentration. *Instn chem. Engrs Ann. Res. Mtg, Bradford, 24–25 March 1975*. London: Institution of Chemical Engineers, 1975, 3 pp.

DANG, N. D. P., GIBILARO, L. G., Numerical inversion of Laplace transforms by a simple curve fitting technique. *Chem. Eng. J.*, 8 (1974), 157–61.

DAVEY, R. J., MULLIN, J. W., Growth of the {101} faces of ammonium dihydrogen phosphate crystals in the presence of ionic species. *J. Cryst. Growth*, 23 (1974), 89–94.

Growth of the {100} faces of ammonium dihydrogen phosphate crystals in the presence of ionic species. *Ibid.*, 26 (1974), 45–51.

DUNNILL, P., LILLY, M. D., Recent developments in enzyme isolation processes. *Enzyme Engineering*, vol. 2, ed. E. K. Pye and L. B. Wingard, Jr. New York: Plenum Press, 1974, 43–5.

Protein extraction and recovery from microbial cells. *Single-cell Protein, II*, ed. S. R. Tannenbaum and D. I. C. Wang. Cambridge, Mass., and London: The MIT Press, 1975, 179–207.

Purification of enzymes using magnetic bio-affinity materials. *Biotechnol. & Bioengng*, 16 (1974), 987–90.

FARHADPOUR, F. A., GIBILARO, L. G., Ratio-integral objective functions in the optimal operation of chemical reactors. *Chem. Eng. Sci.*, 30 (1975), 735–41.

GARSIDE, J., MULLIN, J. W., DAS, S. N., Growth and dissolution kinetics of potassium sulfate crystals in an agitated vessel. *Ind. Eng. Chem.* (*Fundam.*), 13 (1974), 299–305.

GOLDSMITH, J. A., ROWE, P. N., The shape of bubbles in a two-dimensional gas fluidised bed. *Chem. Eng. Sci.*, 30 (1975), 439–40.

GRECO, G., IORIO, G., GIBILARO, L. G., The numerical evaluation of moments from system transfer functions. *Chem. Eng. Sci.*, 30 (1975), 638–40.

GRECO, G., IORIO, G., TOLA, G., WALDRAM, S. P., Unsteady-state diffusion in porous solids: conditions for equivalence in various geometries. *Trans. Instn chem. Engrs*, 53 (1975), 55–8.

HORNE, D. G., Sensitivity of the Gaussian plume model. *Atmos. Envir.*, 9 (1975), 550–1.

LILLY, M. D., Biochemische reaktoren. *Chemie-Ingenieur-Technik*, 46 (1974), 684–9.

LILLY, M. D., REGAN, D. L., DUNNILL, P., Well-mixed immobilized enzyme reactors. *Enzyme Engineering*, vol. 2, ed. E. K. Pye and L. B. Wingard, Jr. New York: Plenum Press, 1974, 245–51.

LONG, V. D., Maximum yield of a condensed product of a gas phase reaction. *Chem. Eng. Sci.*, 30 (1975), 637–8.

MULLIN, J. W., Bulk crystallization. *Crystal Growth*, ed. B. Pamplin. Oxford: Pergamon Press, 1974, 289–325 (ch. VIII).

Recommended symbols for industrial crystallisation. *The Chem. Engr*, No. 287/8 (1974), 458–9, 464.

SI units in practice. *Proc. Symp. on the Communication of Chemistry, London, April 1975*. London: Chemical Society, 1975, Section 3.2, 13–15.

MULLIN, J. W., ANG, H-M., Effect of ultrasonics on crystal agglomerates: test for the degree of agglomeration. *Chem. & Ind.*, No. 15 (1974), 622–3.

Crystal size measurement: comparison of the techniques of sieving and Coulter counter. *Powder Technol.*, 10 (1974), 153–6.

NIENOW, A. W., The effect of agitation and scale-up on the mechanism of secondary nucleation. *Industria Chimica e Petrolifera*, 11 (1974), 22–4.
Agitated vessel particle-liquid mass transfer: a comparison between theories and data. *Chem. Eng. J.*, 9 (1975), 153–60.
NIENOW, A. W., BARTLETT, R., The measurement and prediction of particle-fluid slip velocities in agitated vessels. *Proc. 1st European Conf. on Mixing and Centrifugal Separation, Cambridge, 1974.* Cranfield: British Hydromechanics Research Association, 1974, B1:1–15.
NIENOW, A. W., WISDOM, D. J., Flow over disc turbine blades. *Chem. Eng. Sci.*, 29 (1974), 1994–7.
REGAN, D. L., LILLY, M. D., DUNNILL, P., Influence of intraparticle diffusional limitation on the observed kinetics of immobilized enzymes and on catalyst design. *Biotechnol. & Bioengng*, 16 (1974), 1081–93.
ROBINSON, P. J., WHEATLEY, M. A., JANSON, J-C., DUNNILL, P., LILLY, M. D., Pilot scale affinity chromatography: purification of β-galactosidase. *Ibid.*, 16 (1974), 1103–12.
ROWE, P. N., Particle-to-liquid mass transfer in fluidised beds. *Chem. Eng. Sci.*, 30 (1975), 7–9.
ROWE, P. N., YACONO, C., The distribution of bubble size in gas fluidised beds. *Trans. Instn chem. Engrs*, 53 (1975), 59–60.
WYKES, J. R., DUNNILL, P., LILLY, M. D., Cofactor recycling in an enzyme reactor. A comparison using free and immobilized dehydrogenases with free and immobilized NAD. *Biotechnol. & Bioengng*, 17 (1975), 51–68.

CIVIL AND MUNICIPAL ENGINEERING

ARTHUR, J. R. F., *Principles of Measurement. General Report, Session 1. Symp. Field Instrumentation in Geotechnical Engineering.* London: Butterworths, 1974, 510–16.
BLUMENFELD, D. E., WEISS, G. H., Spatial distributions of homes for journeys to work by different modes of transport. *Transportation Res.*, 9 (1975), 19–23.
CROLL, J. G. A., *Force Systems and Equilibrium Textbook.* London: Chatto & Windus, 1974. 96 pp.
Kinematically coupled non-linear vibrations. *J. Sound & Vib.*, 40 (1973), 77–85.
Coupled vibration modes. *Ibid.*, 38 (1975), 27–37.
CROLL, J. G. A., SVENSSON, S. E., Interaction between local and overall buckling. *Int. J. Mech. Sci.*, 17 (1975), 307–21.
DEB, A. K., Least cost design in branched pipe network systems. *Proc. Amer. Soc. civ. engrs, J. Environ. Engng Div.*, 100 (1974), 821–35.
ELVERY, R. H., SAMARAI, M. A., An ultrasonic method for the detection of initial cracking in concrete. *Al-Muhandis*, 19 (1974), 3–13.
The influence of fibres upon crack development in reinforced concrete subject to uniaxial tension. *Mag. Concrete Res.*, 26 (1974), 203–11.
GRASS, A. J., Transport of fine sand on a flat bed: turbulence and suspension mechanics. *Euromech*, 48 (1974), 31–2.
GREGORY, J., Interfacial phenomena. *The Scientific Basis of Filtration*, ed. K. J. Ives. Leyden: Noordhoff, 1975, 53–90.
Interaction of unequal double layers at constant charge. *J. Colloid Interface Sci.*, 51 (1975), 44–51.

GREGORY, J., SEMMENS, M. J., Selectivity of strongly basic anion exchange resins for organic anions. *Env. Sci. Tech.*, 8 (1974), 834–9.
GREGORY, J., SHEIHAM, I., Kinetic aspects of flocculation by cationic polymers. *Br. Polym. J.*, 6 (1974), 47–59.
IVES, K. J., Editor, *The Scientific Basis of Filtration*. N.A.T.O. Advanced Study Inst. Ser. E., *Applied Sciences*. Leyden: Noordhoff, 1975. 444 pp.
Solid-liquid separation. *Effl. Wat. Trtmt J.*, 14 (1974), 636–45.
KEMP, K. O., Conceitos de seguranca estrutal. *Citec, Cienca e Tecnica*, 11 (1974), 27–37.
KEMP, K. O., CROLL, J. G. A., Collapse of a cooling tower due to geometric imperfections. *Int. Assoc. Shell Structures, Colloq. Cooling Towers, Brussels, 9–11 June 1975* (1975), 1–19.
KEMP, K. O., FERNANDO, J. S., The strip method of slab design, unique or lower bound solution. *Mag. Concrete Res.*, 27 (1975), 23–9.
KIRBY, H. R., A comment on Cesario's note on trip distribution. *Transportation Res.*, 9 (1975), 83–4.
SMEED, R. J., Speed and road accidents. *Total House Mag.*, 59 (1974), 12–19.
THOMPSON, J. M. T., Experiments in catastrophe. *Nature, Lond.*, 254 (1975), 392–5.
Instabilities, bifurcations and catastrophes. *Phys. Letts*, 51A (1975), 201–3.
THOMPSON, J. M. T., HUNT, G. W., Dangers of structural optimization. *Engng Optimization*, 1 (1974), 99–110.
THOMPSON, J. M. T., SHORROCK, P. A., Bifurcational instability of an atomic lattice. *J. Mech. Phys. Solids*, 23 (1975), 21–37.
WALKER, A. C., Editor, *Design and Analysis of Cold-formed Sections*. London: Intertect, 1975.
(with Murray, N. W.), A plastic collapse mechanism for compressed plates. *Proc. I.A.B.S.E.*, 35 (1975), 217–36.
(with Spencer, H. H.), Techniques for measuring the critical loads of columns and plates. *Exptl Mechanics*, 47 (1975), 303–10.

ELECTRONIC AND ELECTRICAL ENGINEERING

ASH, E. A., Acoustics in space and time—A developing technology, *Proc. Instn elect. Engrs*, 22 (1975), 17–21.
BARLOW, H. M., Dipole-mode propagation in hollow tubular waveguides. *Proc. Instn elect. Engrs*, 121 (1974), 537–40.
Dipole-mode propagation in a rectangular waveguide. *Ibid.*, 1363–6.
BLAKEY, P. A., CULSHAW, B., GIBLIN, R. A., Efficiency enhancement in avalanche diodes by depletion region width modulation. *Electronics Letters*, 10 (1974), 435–6.
BULLINGHAM, J. M., PIM, D. N., Production line flow simulation by mini-computer. *The Production Engineer, J. Inst. Prod. Engrs*, 54 (1975), 413–16.
CHAMBERS, J., PAPADOFRANGAKIS, E., MASON, I. M., Thermal characteristics of surface wave recirculating loops as a Y-cut quartz disc delay line. *Electronics Letters*, 11 (1975), 36–7.
CULLEN, A. L., Improvements in the beam-wave theory of the open resonator. *Electronics Letters*, 11 (1975), 344–5.
Microwaves ancient and modern. *Proc. roy. Instn, G.B.*, 47 (1974), 87–101.
CULLEN, A. L., FORREST, J. R., Analytic theory of the IMPATT diode and

its application to calculations of oscillator locking characteristics. *Proc. Instn elect. Engrs*, 121 (1974), 1467–74.

CULLEN, A. L., OZKAN, O., Coupled parallel rectangular dielectric waveguides. *Proc. Instn elect. Engrs*, 122 (1975), 593–9.

CHAN, C. K., COLE, R. S., A stable microwave integrated circuit x-band Gunn oscillator. *Trans. I.E.E.E. Microwave Theory and Techniques*, MTT-22 (1974), 815.

CULSHAW, B., Graphical optimisation of the doping profile in transit time devices. *Proc. Instn electron. elect. Engrs* (1975), 321–2.

CULSHAW, B., BLAKEY, P. A., GIBLIN, R. A., Charge limited domains in gallium arsenide avalanche diodes. *Electronics Letters*, 11 (1975), 102–3.

CULSHAW, B., GIBLIN, R. A., BLAKEY, P. A., Avalanche diode oscillator. Pt I. Basic concepts. *Int. J. Electronics*, 37 (1974), 577–632.

CULSHAW, B., GIBLIN, R. A. (with Carroll, J. E.), The equal areas rule for gallium arsenide avalanche diodes. *Electronics Letters*, 11 (1975), 316–18.

DAVIES, D. E. N., LIM, J. C., Synthesis of a single null response in an otherwise omnidirectional pattern using a circular array. *Proc. Instn elect. Engrs*, 122 (1975), 349–52.

DAVIES, D. E. N., NIAZI, A. Y., LAMENSDORF, D., A novel approach to the production of band branching filters for microwave frequencies. *Electronics Letters*, 11 (1975), 10–11.

DAVIES, D. E. N., WITHERS, M. J., CLAYDON, R. P., Passive coded transponder using an acoustic surface wave delay line. *Electronics Letters*, 11 (1975), 163–4.

DAVIES, J. B. (with LaRiviere, H. J.), The solution of electromagnetic eigenvalue problems by least squares boundary residuals. *Trans. I.E.E.E. on Microwave Theory and Techniques*, MTT-23 (1975), 436–41.

MASON, I. M., CHAMBERS, J. (with Lagasse, P. E.), Laser probe analysis of field distribution within acoustic surface wave planar resonators. *Electronics Letters*, 11 (1975), 288–90.

MASON, I. M., PAPADOFRANGAKIS, E., CHAMBERS, J., ULRICH, R., The optics of propagation in the anisotropic space of an acoustic surface-wave disc delay line. *Electronics Letters*, 11 (1975), 348–9.

NAGENTHIRAM, P., CULLEN, A. L., A microwave barrel resonator for permittivity measurements on dielectric rods. *Proc. I.E.E.E.*, 62 (1974), 1613–14.

PITT, C. W., GFELLER, F. R., STEVENS, R. J., R.f. sputtered thin films for integrated optical components. *Thin Solid Films*, 26 (1975), 25–51.

PITT, C. W., KIRK, I. H., STEVENS, R. J., Automatic monitoring of deposition conditions during R.f. sputtering of dielectric materials. *Vacuum*, 25 (1975), 265–71.

RAZAZ, M., DAVIES, J. B., Admittance of coaxial-to-circular waveguide junction. *Electronics Letters*, 10 (1974), 324–6.

SHTYKOV, V., MASON, I. M., MOTZ, M. D., On the anistropy of guided acoustic surface wave degenerate convolution. *Trans. I.E.E.E. Sonics and Ultrasonics*, SU22 (1975), 131–6.

TAYLOR, W. K., WITKOWSKI, J. J., Pattern recognition circuits. *Wireless World* (September 1974), 332–3.

WILSON, M. G. F., TEH, G. A., Tapered optical directional coupler. *Trans. I.E.E.E. Microwave Theory and Techniques*, MTT-23 (1975), 85–92.

WRIGHT, S., MASON, I. M., WILSON, M. G. F., High-speed electro-optic analogue to digital conversion. *Electronics Letters*, 10, 508–9.

BISHOP, R. E. D., An introductory note. *Proc. Greenwich Forum Conf. Exploitation of the North Sea, R.N. College, Greenwich, April 1975* (1975), 7–9.
Technology. *Ibid.*, 21–4.
Offshore technology and the Institution. *The Chartered Mech. Engr*, 21 (1975), 86–9.
(with Mahalingam, S.), Dynamic loading of gear teeth. *J. Sound Vib.*, 36 (1974), 179–89.
(with Mahalingam, S.), The response of a system with repeated natural frequencies to force and displacement excitation. *Ibid.*, 285–95.

BISHOP, R. E. D., BURCHER, R. K., PRICE, W. G., A linear analysis of planar motion mechanism data. *J. Ship Res.*, 18 (1974), 242–51.
The determination of ship manoeuvring characteristics from model tests. *Trans. roy. Instn Nav. Arch.*, 117 (1975), 215–30.

BISHOP, R. E. D., PRICE, W. G., Editors, *The Dynamics of Marine Vehicles and Structures in Waves*. London: Institution of Mechanical Engineers, 1975. 448 pp.
On modal analysis of ship strength. *Proc. roy. Soc.*, A, 341 (1974), 121–34.
Ship strength as a problem of structural dynamics. *The Naval Architect (J.R.I.N.A.)*, 117 (1975), 61–3.

BROOME, D. R., DAVIES, B. L., LORD, MARILYN, Current experience with a prototype hydraulically powered prosthesis. *Proc. 5th Conf. Canadian Medical & Biological Engineering Soc., Montreal, September 1974* (1974), 17.1a–17.1b.

CLAYTON, B. R., A review and appraisal of crossflow fans. *J. Instn Heat & Vent. Engrs*, 42 (1975), 230–47.

COLLINS, R. (with Hoath, M. T.), Draining from rapidly spinning tubes. *J. Fluid Mech.*, 67 (1975), 763–8.

DAVIES, B. L., *Report of Visit to Prosthetic and Orthotic Research Centres in the U.S.A.* London: Action Research for the Crippled Child, 1975. 34 pp.
A portable hydraulic power source for artificial arms. *Proc. 27th Conf. Alliance for Engineering in Medicine & Biology, Philadelphia, Oct. 1974* (1974), 237–8.

EATOCK TAYLOR, R., Structural dynamics of fixed and floating platforms in waves. *The Dynamics of Marine Vehicles and Structures in Waves*, ed. R. E. D. Bishop and W. G. Price. London: Institution of Mechanical Engineers, 1975, 235–47.
Contribution to discussion of paper by F. F. van Gunsteren 'Some further calculations of wave-induced motions'. *Ibid.*, 437.
Analysis of the flexural vibrations of variable density spheroids immersed in an ideal fluid, with application to ship structural dynamics. *Phil. Trans.*, A, 277 (1975), 623–48.
A preliminary study of the structural dynamics of gravity platforms. *Proc. Offshore Technology Conf., Houston, Texas, May 1975*, viii (1975), 695–706.
Contribution to discussion of paper by A. O. Bell 'Service performance of a drilling rig'. *Trans. roy. Instn Nav. Arch.*, 116 (1974), 257.

JONES, W. J. D., Materials in a marine environment. *J. Soc. Environ. Engrs*, 13 (1974), 9–13.

LEWINS, J., Neutron fluctuations in a critical reactor. *J. Inst. Nucl. Engr.*, 15 (1974), 131–2.
On the interpretation of Markov processes in a nuclear reactor. *Atomkernenergie*, 23 (1974), 172–6.

(with Henley, E. J.), Editors, *Advances in Nuclear Science and Technology*, vol. 9. New York: Academic Press, 1975. 250 pp.

MASSEY, B. S., *Mechanics of Fluids* (3rd ed.). London: Van Nostrand, 1975. 528 pp.

MAULE, H. G. (with Weiner, J. S.), Some observations on the teaching of ergonomics. *Ethnic Variables in Human Factors Engineering*, ed. A. Chapanis. London and Baltimore: The Johns Hopkins University Press, 1975, 271–9 (ch. XVIII).

PRICE, W. G., BISHOP, R. E. D., *Probabilistic Theory of Ship Dynamics*. London: Chapman & Hall, 1974. 311 pp.

PHOTOGRAMMETRY AND SURVEYING

ALLAN, A. L., *Education for the Profession* (2nd ed.). Silver Spring, Maryland: International Federation of Surveyors, 1974. 34 pp.

Aids to learning and teaching photogrammetry and surveying. *Proc. Commission 2, XIV Int. Congr. Surveyors. Washington, D.C., 1974*, Paper No. 204.2, 5 pp.

Three spherical trig. formulae with one proof. *Chartered Surveyor Land Hydrographic and Minerals Quart.*, 1 (1974), 47–8.

Distance measurement: 1949–1974. *Ibid.*, 2 (1974), 5–6.

New hybrid systems for the ground surveying of details at large scales. *Ibid.*, 2 (1975), 50–4.

A proof of the barycentric resection formulae. *Survey Rev.*, 23 (1975), 106–8.

ATKINSON, K. B., The Wild P31 terrestrial camera. *Survey Rev.*, 22 (1974), 375–8.

(with Newton, I., Morgan, B. D. G.), A note on volume determination in connexion with reconstructive surgery. *Proc. Symp. Commission V, Int. Soc. Photogrammetry, on Biomedical and Bioengineering Applications of Photogrammetry*. Falls Church, Virginia: American Society of Photogrammetry, 1974, 161–71.

ATKINSON, K. B., LAW, H. J. (with Beard, L. F. H., Dale, P. F., Elkington, A. R.), A straightforward approach to stereometric photography for medical purposes. *Proc. Symp. Commission V, Int. Soc. Photogrammetry, on Biomedical and Bioengineering Applications of Photogrammetry*. Falls Church, Virginia: American Society of Photogrammetry, 1974, 27–48.

ATKINSON, K. B., WICKENS, E. H. (with Clark, C. E., Flinn, R. M.), The measurement and comparison of tooth shape using photogrammetry. *Photogrammetric Record*, 8 (1974), 217–22.

DOWMAN, I. J., Off-line contour plotting using the CP1 photogrammetric plotter. *Proc. Commission 5, XIV Int. Congr. Surveyors. Washington, D.C., 1974*, Paper No. 509.3, 5 pp.

Editor, *Directory of Research and Development Activities in the United Kingdom in the Fields of Land Survey, Geodesy, Photogrammetry and Hydrographic Surveying*. London: United Kingdom National Group for Communication in Surveying and Photogrammetry, 1974. 67 pp.

(with Elkington, A. R.), Photogrammetric measurement of the retina of the eye. *Proc. Symp. Commission V, Int. Soc. Photogrammetry, on Biomedical and Bioengineering Applications of Photogrammetry*. Falls Church, Virginia: American Society of Photogrammetry, 1974, 172–84.

(with ffytche, T. J., Elkington, A. R.), Photogrammetry of the optic disc. *Trans. Ophthal. Soc., U.K.*, 93 (1973), 251–3.

THOMPSON, E. H., Approximate instruments. With special reference to the CP1 plotter. *South African J. Photogrammetry*, 6 (1974), 17–23.

Second order corrections to photographic co-ordinates. *Photogrammetric Record*, 8 (1974), 210–16.

Convergence. *Ibid.*, 8 (1975), 330–2.

Resection in space. *Ibid.*, 8 (1975), 333–4.

A note on conformal map projections. *Survey Rev.*, 23 (1975), 17–28.

FACULTY OF MEDICAL SCIENCES

ANATOMY AND EMBRYOLOGY

BACKHOUSE, M. (with Corbet, Sarah A.), Aphid-hunting wasps: a field study of *Passalecus*. *Trans. R. ent. Soc. Lond.*, 127 (1975), 11–30.

BANCROFT, M., BELLAIRS, R., The onset of differentiation in the epiblast of the chick blastoderm (SEM and TEM). *Cell Tiss. Res.*, 155 (1974), 399–418.

BARLOW, J. J., JUORIO, A. V., Catecholamine levels in the vertical lobes of *Octopus vulgaris* and other cephalopods and the effect of experimental degeneration. *Comp. Gen. Pharmac.*, 5 (1974), 281–4.

BARLOW, J. J., SANDERS, G. D., Intertrial interval and passive avoidance learning in *Octopus vulgaris*. *Anim. Learn. & Behav.*, 2 (1974), 86–8.

BARNES, I. E., The production of inlay cavity bevels. *Brit. dent. J.*, 137 (1974), 379.

BELLAIRS, R., Cell differentiation. *The Cell in Medical Science*, ed. F. Beck and J. D. Lloyd. New York: Academic Press, 1974, 249–82 (ch. XIV).

Cell growth and morphogenesis. *Ibid.*, 283–311 (ch. XV).

(with Harkness, M. L. R., Harkness, R. D.), The structure of the tapetum of the eye of the sheep. *Cell Tiss. Res.*, 157 (1975), 73–91.

BELLAIRS, R., BANCROFT, M., Midbodies and beaded threads. *Amer. J. Anat.*, 143 (1975), 393–8.

(with Ede, D. A.), A scanning electron microscopy study of the early limb-bud in normal and *talpid*[3] mutant chick embryos. *J. Embryol. exp. Morph.*, 31 (1974), 761–85.

BIRD, MARGARET M., JAMES, D. W., An ultrastructural and electrophysiological study of the development of neuromuscular junctions between previously dissociated foetal rat cells. *Cell Tiss. Res.*, 155 (1974), 269–82.

BOYDE, A., Three-dimensional aspects of SEM images. *Scanning Electron Microscopy*, Chicago: I.I.T. Research Institute, 1974, 277–307 (ch. XI).

Histological and cytological methods for the SEM in biology and medicine. *Ibid.*, 308–36 (ch. XII).

Measurement of specimen height differences and beam tilt angle in anaglyph real time stereo TV SEM systems. *Scanning Electron Microscopy*, Pt I. *Proc. 8th Ann. S.E.M. Symp.* (1975), 189–98.

A method for the preparation of cell surfaces hidden within bulk tissue for examination in the SEM. *Ibid.*, 295–304.

Transmission electron microscopy of ion beam thinned dentine. *Cell Tiss. Res.*, 152 (1974), 543–50.
Scanning electron microscopy of enamel surfaces. *Brit. med. Bull.*, 31 (1975), 120–4.
(with Höhling, H. J., Nicholson, W. A. P., Ashton, B. A.), Electron probe analysis in the study of hard tissue formation. Abstract 9. *Proc. Micro 74, Roy. Microscop. Soc. Suppl.* (1974), 35–6.
(with Nicholson, W. A. P., Ashton, B. A., Höhling, H. J.), Comparison of Ca, P, and S levels in predentine and tendon. *Calcium Metabolism, Bone and Metabolic Bone Disease*, ed. F. Kuhlencordt and H. P. Kruse. Berlin: Springer, 1975, 181–3.
(with Reed, Sylvia E.), Scanning electron microscopy of virus-infected respiratory epithelium. *Chest*, 65 (1974), 59–60S.

BOYDE, A., HOWELL, P. G. T., JONES, S. J., Measurement of lacunar volume in bone using a stereo-logical grid counting method evolved for the scanning electron microscope. *J. Microscop.*, 101 (1974), 261–6.

BOYDE, A., JONES, S. J., Bone and other hard tissues. *Principles and Techniques of Scanning Electron Microscopy. Biological Applications, 2*, ed. M. A. Hayat. New York: Van Nostrand Reinhold, 1974, 123–49.
Osteoblasts and bone collagen orientation. *Abstr. Int. Workshop on Calcified Tissues.* Israel: Society on Calcified Tissues, 1974, 7.
(with Renson, C. E.), Scanning electron microscopy of human dentine specimens fractured in bend and torsion tests. *Archs. oral Biol.*, 19 (1974), 447–54.

BRADLEY, ELSPETH A., YOUNG, J. Z., Are there circadian rhythms in learning by *Octopus*? *Behav. Biol.*, 13 (1975), 527–31.

BYNUM, W. F., Rationales for therapy in British psychiatry: 1780–1835. *Medical History*, 18 (1974), 317–34.
The great chain of being after forty-years: an appraisal. *Hist. Sci.*, xii (1975), 1–28.

CRAWFORD, C. L., EVANS, D. H. L., EVANS, EILEEN M., Experimental allergic neuritis induced by sensory nerve myelin may provide a model for nonlepromatous leprosy. *Nature, Lond.*, 251 (1974), 223–5.

DILLY, P. N., The dormant buds of *Rhabdopleura compacta* (Hemichordata). *Cell Tiss. Res.*, 159 (1975), 387–97.
The Pterobranch *Rhabdopleura Compacta*: its nervous system and phylogenetic position. *Symp. zool. Soc. Lond.*, 36 (1975), 1–16.

GRAY, E. G., The synapse. *The Cell in Medical Science*, vol. 2, ed. F. Beck and J. B. Lloyd. London: Academic Press, 1975, 385–416.
Synaptic fine structure and nuclear, cytoplasmic and extracellular networks. *J. Neurocytol.*, 4 (1975), 315–39.

GRAY, E. G., PAULA-BARBOSA, M., Dense particles within synaptic vesicles fixed with acid-aldehyde. *J. Neurocytol.*, 3 (1974), 487–96.

GRAY, E. G., WILLIS, R. A., The presynaptic cytonet concept. *8th Int. Congr. Electron Microscopy, Canberra*, II (1974), 274–5.

HALL-CRAGGS, E. C. B., Physiological and histochemical parameters in comparative locomotor studies. *Prosimian Biology*, ed. R. D. Martin, G. A. Doyle, and A. C. Walker. London: Duckworth, 1974, 829–45.

HALL-CRAGGS, E. C. B., SINGH SEYAN, H., Histochemical changes in innervated and denervated skeletal muscle fibers following treatment with Bupivacaine (Marcain). *Exp. Neurol.*, 46 (1975), 345–54.

HOWELL, P. G. T., A practical method for the correction of distortions in SEM photogrammetry. *Scanning Electron Microscopy*, Pt I. *Proc. Ann. S.E.M. Symp.*, 1975, 199–206.
Taking, presenting and treating stereo data from the SEM. *Scanning Electron Microscopy*. Chicago: I.I.T. Research Institute, 1975, 697–706.
JONES, D. H., MATUS, A. I., Isolation of synaptic plasma membrane from brain by combined flotation-sedimentation density gradient centrifugation. *Biochim. biophys. Acta*, 356 (1974), 276–87.
JONES, SHEILA J., Secretory territories and rate of matrix production of osteoblasts. *Calc. Tiss. Res.*, 14 (1974), 309–15.
JONES, SHEILA J., BOYDE, A., Coronal cementogenesis in the horse. *Archs. oral Biol.*, 19 (1974), 605–14.
JONES, SHEILA J., BOYDE, A., PAWLEY, J. B., Osteoblasts and collagen orientation. *Cell Tiss. Res.*, 159 (1975), 73–80.
JUORIO, A. V., GABELLA, G., Noradrenaline in the guinea pig alimentary canal: regional distribution and sensitivity to denervation and reserpine. *J. Neurochem.*, 22 (1974), 851–8.
LIEBERMAN, A. R., Observations on the dorsal lateral geniculate nucleus (LGd) of the mouse, with special reference to boutons containing 'flattened' synaptic vesicles. *J. Anat., Lond.*, 118 (1974), 373–4.
Comments on the fine structural organization of the dorsal lateral geniculate nucleus of the mouse. *Z. Anat. Entwickl.-Gesch.*, 145 (1974), 261–7.
LIEBERMAN, A. R., ŠPAČEK, J., Some observations on glia/neuron relationships in rat somatosensory thalamus. *Differentiation of Neurons and Glia and their Metabolic and Functional Relationships Symp., Czechoslovakia*, 1974, 55–6.
Ultrastructure and three-dimensional organization of synaptic glomeruli in rat somatosensory thalamus. *J. Anat., Lond.*, 117 (1974), 487–516.
LIEBERMAN, A. R., WEBSTER, K. E., Ultrastructural observations on the dorsal lateral geniculate nucleus (LGd) of the rat following optic nerve transection. *J. Anat., Lond.*, 118 (1974), 383–5.
Terminal and retrograde degeneration in the dorsal lateral geniculate nucleus (LGd) of the rat following cortical lesions. *Ibid.*, 384–6.
Aspects of the synaptic organization of intrinsic neurons in the dorsal lateral geniculate nucleus. An ultrastructural study of the normal and of the experimentally deafferented nucleus in the rat. *J. Neurocytol.*, 3 (1974), 677–710.
MATUS, A. I., Immunohistochemical demonstration of antigen associated with the post-synaptic lattice. *J. Neurocytol.*, 4 (1975), 47–53.
MATUS, A. I., WALTERS, B. B., Ultrastructure of the synaptic junctional lattice isolated from mammalian brain. *J. Neurocytol.*, 4 (1975), 369–75.
MATUS, A. I., WALTERS, B. B., JONES, D. H., Junctional ultrastructure in isolated synaptic membranes. *J. Neurocytol.*, 4 (1975), 357–67.
MERRILL, E. G., Iron-plated tungsten micro-electrodes for tip marking. *Proc. physiol. Soc.*, 241 (1974), 68–9.
Antidromic activation of lateral respiratory neurones during their silent periods. *Ibid.*, 241 (1974), 118–19.
Preliminary studies on nucleus retroambigualis-nucleus of the solitary tract interactions in cats. *Ibid.*, 244 (1974), 54–5.
MERRILL, E. G., WALL, P. D., Impulses recorded in cat *substantia gelatinosa*. *Proc. Physiol. Soc.*, 245 (1974), 82–3.
PAULA-BARBOSA, M., GRAY, E. G., The effects of various fixatives at different

pH on synaptic coated vesicles, reticulosomes and cytonet. *J. Neurocytol.*, 3 (1974), 471–86.

PAWLEY, J. B., BOYDE, A., A robust micromanipulator for the scanning electron microscope. *J. Microscopy*, 103 (1975), 265–70.

QUILLIAM, T. A., Academic communication—an emergent discipline. *Communication Media in Medicine* (1974), 1–3.

The evolution of medical communication. *The Communication Interface* (1974), 3–4.

Can medical journals survive? *Ibid.*, 42–3.

New horizons in bio-medical communication. *Instinct & Intellect in Human Communication* (1975), 1–4.

Information, communication and learning—the three cardinal ingredients of the prescription for higher education. *Ibid.*, 31–46.

(with Jayaraj, P.), Lingual receptors in the woodpecker. *The Anatomical Record*, 181 (1975), 539.

TAN, C. K., LIEBERMAN, A. R., The glomerular synaptic complexes of the rat cuneate nucleus: some ultrastructure observations. *J. Anat., Lond.*, 118 (1974), 374–5.

TAYLOR, W. K., AL-KIBASI, K. T., The UCLM-3 programmable pattern recognition machine. *2nd Int. Jt Conf. Pattern Recognition*, I.E.E.E. No. 74CHO885-4C (1974), 241–6.

TAYLOR, W. K., WITKOWSKI, J. J., Pattern recognition circuits. *Wireless World* (1974), 332–3.

TRESMAN, R. L., EVANS, M. J., A light and electron microscopical study of the nervous tissue of mouse teratomas. *J. Neurocytol.*, 4 (1975), 301–14.

WALL, P. D., Physiological mechanisms involved in the production and relief of pain. *Recent Advances on Pain*, ed. J. J. Bonica. Springfield: C. C. Thomas, 1974, 1–25.

The somatosensory system. *Handbook of Psychobiology*, ed. M. S. Gazzamiza and C. Blakemore. New York: Academic Press, 1975, 373–92.

Acupuncture revisited. *New Scientist*, 64 (1974), 31–4.

The physiology of pain mechanism. *Proc. I.U.P.S.*, 10 (1974), 6–8.

The physiology of gateing mechanisms. *Ibid.*, 68–9.

Two eyes on the needle. *Medical Research Council Report* (1974), 1–3.

Bigger means better. *Nature, Lond.*, 248 (1975), 304–5.

Editorial. *Pain*, 1 (1975), 1.

(with Basbaum, A. I.), Acute and chronic changes after spinal cord deafferentation. *Exp. Neurol.*, 42 (1975), 490–501.

(with Nathan, P. W.), Treatment of post-herpetic neuralgia by prolonged electric stimulation. *Brit. med. J.*, 3 (1974), 645–7.

(with Waxman, S., Basbaum, A. I.), Ongoing activity in peripheral nerve: injury discharge. *Exp. Neurol.*, 45 (1974), 576–89.

WALTERS, B. B., MATUS, A. I., Proteins of the synaptic junction. *Biochem. Soc. Trans.* (1974), 109–12.

Ultrastructural organization in isolated synaptic densities. *J. Anat., Lond.*, 119 (1975), 415.

WEBSTER, K. E., Structure and function of the basal ganglia—a non-clinical view. *Proc. roy. Soc. Med.*, 68 (1975), 203–10.

WILLIS, R. A., Further observations on reduction in section thickness caused by the electron beam. *8th Int. Congr. Electron Microscopy, Canberra*, II (1974), 684–5.

WINFIELD, D. A., LIEBERMAN, A. R., WEBSTER, K. E., An electron microscopical study of the projection from the primary somatosensory cerebral cortex to the postero-lateral complex of the rat thalamus. *J. Anat., Lond.*, 118 (1974), 372–3.

YOUNG, J. Z., Report of talk on functional recovery in vertebrates and invertebrates. *Neurosciences Res. Prog. Bull.*, 12 (1974), 273–5.

ZEKI, S., Cells responding to changing image size and disparity in the cortex of the Rhesus monkey. *J. Physiol.*, 242 (1974), 827–41.

BIOCHEMISTRY

AUSTOKER, JOAN L., BEEBEE, T. J. C., BUTTERWORTH, P. H. W. (with Chesterton, C. J.), DNA-dependent RNA polymerase activity of Chinese hamster kidney cells sensitive to high concentrations of α-amanitin. *Cell*, 3 (1974), 227–34.

BEEBEE, T. J. C., BUTTERWORTH, P. H. W., Transcription specificity of *Xenopus laevis* RNA polymerase A. *F.E.B.S. Letters*, 47 (1974), 304–6.

Transcription of isolated nuclei and nucleoli by exogenous RNA polymerases A and B. *Eur. J. Biochem.*, 51 (1975), 537–45.

BETZ, JOAN L., BROWN, JANE E., CLARKE, PATRICIA H., DAY, M., Genetic analysis of amidase mutants of *Pseudomonas aeruginosa*. *Genet. Res. Camb.*, 23 (1974), 335–59.

BUTTERWORTH, P. H. W. (with Coupar, B. E. H., Chesterton, C. J.), Transcription of fractionated chromatin by mammalian DNA-dependent RNA polymerases. *Biochem. J.*, 143 (1974), 73–81.

CHANCE, E. M. (with Hess, B., Plesser, T., Wurster, B.), Determination of the kinetic constants of glucose-6-phosphate 1-epimerase by non-linear optimization. *Eur. J. Biochem.*, 50 (1975), 419–24.

CLARKE, PATRICIA H., Amidases of *Pseudomonas* species. *Biochem. Soc. Trans.*, 2 (1975), 831–4.

Enzyme evolution in action. *New Scientist*, 67 (1975), 146–8.

(with Ornston, L. N.), Metabolic pathways and regulations—Pts I and II. *Genetics and Biochemistry of Pseudomonas*, ed. Patricia H. Clarke and M. H. Richmond. London: Wiley, 1975, 191–261, 263–340.

(with Richmond, M. H.), Editors, *Genetics and Biochemistry of Pseudomonas*. London: Wiley, 1975. ix + 359 pp.

(with Richmond, M. H.), Evolutionary prospects for Pseudomonas species. *Genetics and Biochemistry of Pseudomonas*, ed. Patricia H. Clarke and M. H. Richmond. London: Wiley, 1975, 341–58.

COHEN, P., ROSEMEYER, M. A., Glucose-6-phosphate dehydrogenase from human erythrocytes. *Methods in Enzymology*, vol. 41, ed. W. A. Wood. New York and London: Academic Press, 1975, 208–14.

DAY, M. J., POTTS, J. R., CLARKE, PATRICIA H., Location of genes for the utilization of acetamide, histidine and proline on the chromosome of *Pseudomonas aeruginosa*. *Genet. Res., Camb.*, 25 (1975), 71–8.

DE POMERAI, D. I., BUTTERWORTH, P. H. W. (with Chesterton, C. J.), Preparation of chromatin. Variation in the template properties of chromatin dependent upon the method of preparation. *Eur. J. Biochem.*, 46 (1974), 461–71.

GIUFFRIDA, ANNA M., COX, D., MATHIAS, A. P., RNA polymerase activity in various classes of nuclei from different regions of rat brain during postnatal development. *J. Neurochem.*, 24 (1975), 749–55.

HOLLAWAY, M. R., WHITE, H. A. (with Joblin, K. N., Johnson, A. W., Lappert, M. F.), Coenzyme-B_{12}-dependent enzyme reactions: a spectrophotometric rapid kinetic study of ethanolamine ammonia-lyase. *F.E.B.S. Letters*, 53 (1975), 193–8.

HOLMES, A. M., HESSLEWOOD, I. P., JOHNSTON, I. R., *In vitro* conversion of a calf thymus 8S DNA polymerase to a 7.3S species. *Nature, Lond.*, 255 (1975), 420–2.

HOLMES, A. M., HESSLEWOOD, I. P., WAKELING, W. F., JOHNSTON, I. R., Further studies on the mammalian high molecular weight DNA polymerase fraction. *Biochem. Soc. Trans.*, 2 (1974), 864–5.

MEADOW, PAULINE M., Wall and membrane structure in the genus *Pseudomonas. Genetics and Biochemistry of Pseudomonas*, ed. Patricia H. Clarke and M. H. Richmond. London: Wiley, 1975, 67–98.

Studies on the lipopolysaccharide of *Pseudomonas aeruginosa* PAC1. *Lunteren Lectures in Molecular Genetics* (1974).

MOWBRAY, J., Evidence for the role of a specific monocarboxylate transporter in the control of pyruvate oxidation by rat liver mitochondria. *F.E.B.S. Letters*, 44 (1974), 344–7.

A mitochondrial monocarboxylate transporter in rat liver and heart and its possible function in cell controls. *Biochem. J.*, 148 (1975), 41–7.

NELSON, D. R., HUGGINS, A. K., The interaction of 5-hydroxytryptamine and related hydroxyindoles with horseradish and mammalian peroxidase systems. *Biochem. Pharmacol.*, 24 (1975), 181–92.

OSBORNE, H. H., HOLLOWAY, M. R., The hybridization of glyceraldehyde 3-phosphate dehydrogenases from rabbit muscle and yeast. Kinetics and thermodynamics of the reaction and isolation of the hybrid. *Biochem. J.*, 143 (1974), 651–62.

O'TOOLE, K., The effect of phospholipase C treatment on the latency and sedimentability of rat liver microsomal nucleoside diphosphatase. *F.E.B.S. Letters*, 52 (1975), 180–4.

PEARSE, BARBARA M. F., ROSEMEYER, M. A., 6-phosphogluconate dehydrogenase from human erythrocytes. *Methods in Enzymology*, ed. W. A. Wood. New York and London: Academic Press, 1975, 220–6.

ROODYN, D. B., Automatic biochemical analysis, including enzyme analysis. *Proc. Soc. Analyt. Chem.*, 11 (1974), 224–5.

ROSEMEYER, M. A. (with Challand, G. S.), The correlation between the apparent molecular weight and the enzymic activity of lactose synthetase. *F.E.B.S. Letters*, 47 (1974), 94–7.

SAGGERSON, E. D., Lipogenesis in rabbit isolated fat-cells. *Biochem. J.*, 142 (1974), 477–82.

SAGGERSON, E. D., EVANS, C. J., The activities and intracellular distribution of nicotinamide-adenine dinucleotide phosphate malate dehydrogenase, phosphoenol pyruvate carboxykinase and pyruvate carboxylase in rat, guinea pig and rabbit tissues. *Biochem. J.*, 146 (1975), 329–32.

SAPAG-HAGAR, M., GREENBAUM, A. L., The role of cyclic nucleotides in the development and function of rat mammary tissue. *F.E.B.S. Letters*, 46 (1974), 180–3.

Adenosine 3′:5′-monophosphate and hormone interrelationships in the mammary gland of the rat during pregnancy and lactation. *Eur. J. Biochem.*, 47 (1974), 303–12.

(with Lewis, D. J., Hallowes, R. C.), The effects of di-butyryl cAMP on

enzymatic and metabolic changes in explants of rat mammary tissue. *Biochem. Biophys. Res. Commun.*, 59 (1974), 261–8.

WICKREMASINGHE, R. G., JOHNSTON, I. R., Evidence that the DNA- and poly A-dependent DNA polymerase activities of rat liver are functions of the same enzyme. Some observations on its mode of action. *Biochim. biophys. Acta*, 361 (1974), 37–52.

WORTHINGTON, D. J., ROSEMEYER, M. A., The isolation and properties of glutathione reductase from human erythrocytes. *Biochem. Soc. Trans.*, 2 (1974), 927–9.

Human glutathione reductase: purification of the crystalline enzyme from erythrocytes. *Eur. J. Biochem.*, 48 (1974), 167–77.

(with Schulz, G. E., Zappe, H.), Crystals of human erythrocyte glutathione reductase. *F.E.B.S. Letters*, 54 (1975), 86–8.

BIOPHYSICS

FALK, G., FATT, P., Limitations to single-photon sensitivity in vision. *Lecture Notes in Biomathematics*, vol. 4, *Physics and Mathematics of the Nervous System*, ed. M. Conrad, W. Güttinger, and M. Dal Cin. Berlin: Springer-Verlag, 1974, 171–97.

FATT, P., Postsynaptic cell characteristics determining membrane potential changes. *Lecture Notes in Biomathematics*, vol. 4, *Physics and Mathematics of the Nervous System*, ed. M. Conrad, W. Güttinger, and M. Dal Cin. Berlin: Springer-Verlag, 1974, 150–69.

GREEN, D. P. L., MILEDI, R., PEREZ DE LA MORA, M., VINCENT, A., Acetylcholine receptors. *Phil. Trans. R. Soc.*, B, 270 (1975), 551–9.

GREEN, D. P. L., MILEDI, R., VINCENT, A., Neuromuscular transmission after immunization against acetylcholine receptors. *Proc. R. Soc.*, B, 189 (1975), 57–68.

HARRIS, E. J. (with Gyorgyi, S.), Alkali cation effects on mitochondrial citrate uptake. *Acta Biochim. et Biophys. Acad. Sci. Hung.*, 10 (1975), 57–61.

ITO, Y., MILEDI, R., VINCENT, A., Transmitter release induced by a 'factor' in rabbit serum. *Proc. R. Soc.*, B, 187 (1974), 235–41.

JONES, G. J., Electron microscopy of frog photoreceptor outer segments after fixation with aldehydes. *J. Cell Sci.*, 16 (1974), 199–219.

KATZ, B., Molecular components of neuromuscular transmission. *Soc. Neuroscience, 4th Ann. Mtg, BIS Conf. Report*, 38 (1975), 5–9.

KATZ, B., MILEDI, R., The effect of procaine on the action of acetylcholine at the neuromuscular junction. *J. Physiol.*, 249 (1975), 269–84.

LAMMEL, E., PAGE, S., NIEDERGERKE, R., Analysis of a rapid twitch facilitation in the frog heart. *Proc. R. Soc.*, B, 189 (1975), 577–90.

MILEDI, R. (with Martin, R.), A presynaptic complex in the giant synapse of the squid. *J. Neurocytol.*, 4 (1975), 121–9.

MILEDI, R. (with Kusano, K., Stinnakre, J.), Microinjection of calcium into droplets of aequorin. *Proc. R. Soc.*, B, 189 (1975), 39–47.

Postsynaptic entry of calcium induced by transmitter action. *Ibid.*, 49–56.

MILEDI, R., SPITZER, N. C., Absence of action potentials in frog slow muscle fibres paralysed by Botulinum toxin. *J. Physiol.*, 241 (1974), 183–99.

MILEDI, R., SZCZEPANIAK, A., Effect of *Dendroaspis* neurotoxins on synaptic transmission in the spinal cord of the frog. *Proc. R. Soc.*, B, 190 (1975), 267–74.

PARR, D. R., WIMHURST, J. M., HARRIS, E. J., Calcium-induced damage of rat heart mitochondria. *Cardiovascular Research*, 9 (1975), 366–72.

SZCZEPANIAK, A., Effect of α-bungarotoxin and Dendroaspis neurotoxins on acetylcholine responses of snail neurones. *J. Physiol.*, 241 (1974), 55–6P.

WIMHURST, J. M., HARRIS, E. J. (with Manchester, K. L.), The actions of insulin and glucagon on glucose metabolism and on related enzyme activities in the isolated perfused rat liver. *Biochim. biophys. Acta*, 372 (1974), 72–84.

VINCENT, A., Turnover of motor endplate. *Nature, Lond.*, 254 (1975), 182.

New support for autoimmune basis of myasthenia gravis. *Ibid.*, 256 (1975), 10.

ZUCKER, R. S., Crayfish neuromuscular facilitation activated by constant presynaptic action potentials and depolarizing pulses. *J. Physiol.*, 241 (1974), 69–90.

Characteristics of crayfish neuromuscular facilitation and their calcium dependence. *Ibid.*, 91–110.

Excitability changes in crayfish motor neurone terminals. *Ibid.*, 111–26.

PHARMACOLOGY

ASSEM, E.-S. K. A., Models for the study of the release of mediators of anaphylaxis. *Asthma Research Council Symp.*, ed. D. M. Burley, S. W. Clarke, M. F. Cuthbert, J. W. Paterson, and J. H. Shelley. London: Trust for Education and Research in Therapeutics, 1974, 29–49 and 50 (discussion).

Assay of penicillamine in blood and urine. *Curr. Med. Res. & Opinion*, 2 (1974), 568–72.

Specific immunological responses to propranolol and practolol in man. *Proc. Brit. Pharmacol. Soc., Br. J. Clin. Pharmac.*, 2 (1975), 184–5P.

(with Feigenbaum, J. T. I.), Effect of sympathomimetic amines on the histamine forming capacity of human leucocytes. *Br. J. Pharmac.*, 52 (1974), 213–18.

ASSEM, E.-S. K. A., PATERSON, S., Adenylate cyclase in leucocytes of normal and allergic subjects. *Abstract, Advances in Cyclic Nucleotide Research*, ed. G. I. Drummond, P. Greengard, and G. A. Robinson. Amsterdam: North-Holland, 1975, 816.

Inhibition of histamine release from sensitized human leucocytes by agents altering cyclic nucleotide levels. *Abstract, 6th Int. Congr. Pharmacol.*, 1975, 849.

ASSEM, E.-S. K. A., VICKERS, M. R., The immunological assay of penicillin. *Penicillamine Symp., Postgrad. Med. J.* (August 1974), 10–13.

The immunological response to penicillamine in penicillin-allergic patients and in normal subjects. *Ibid.*, 65–70.

Tests for penicillin allergy in man. II. The immunological cross-reaction between penicillins and cephalosporins. *Immunology*, 27 (1974), 255.

Investigation of the response to some haptenic determinants in penicillin allergy by skin and *in vitro* allergy tests. *Clinical Allergy*, 5 (1975), 43–57.

BLACK, J. W. (with others), The pharmacology of cimeticide, a new histamine H_2-receptor antagonist. *Br. J. Pharmac.*, 53 (1975), 435–6P.

CUTTING, D. A., JORDAN, C. C., Alternative approaches to analgesia: Baclofen as a model compound. *Br. J. Pharmac.*, 54 (1975), 171–9.

DALE, M. M. (with Desai, H. N.), Comparison of antigenicity of hepatoma cells, normal liver cells, foetal liver cells and chemically damaged liver cells in guinea-pigs immunized with hepatomata using the macrophage migration inhibition test. *Br. J. Cancer*, 30 (1974), 109.

DORR, M., STEINBERG, H. (with Shapero, M.), Stimulation of sexual behaviour in rats by a benzodioxane derivative. *Experentia*, 31 (1975), 91–3.

FOREMAN, J. C., The action of a calcium ionophore on a secretory process. *Drugs and Transport Processes*, ed. B. A. Callingham. London: Macmillan, 1974, 222–5.

FOREMAN, J. C., MONGAR, J. L., GARLAND, L. D. (with Gomperts, B. D.), A possible role for cyclic AMP in the regulation of histamine secretion and the action of cromoglycate. *Biochem. Pharmacol.*, 24 (1975), 538–40.

GARLAND, L. D., MONGAR, J. L., Inhibition by cromoglycate of histamine release from rat peritoneal mast cells induced by mixtures of dextran, phosphatidyl serine and calcium ions. *Br. J. Pharmac.*, 50 (1974), 137–43.

HARTLEY, R. E., SCHILD, H. O. (with Davies, H. ff. S.), Chemical properties of a high molecular weight spleen extract with permeability activity. *Agents and Actions*, 4 (1974), 74–83.

JONES, I. M., JORDAN, C. C., WEBSTER, R. A. (with Morton, I. K. M., Stagg, C. J.), The effect of chronic dorsal root section on the concentration of free amino acids in the rabbit spinal cord. *J. Neurochem.*, 23 (1974), 1239–44.

JUORIO, A. V. (with Barlow, J. J., Martin, R.), Monoamine transport in the octopus posterior salivary gland nerves. *J. Comp. Physiol.*, 89 (1974), 105–22.

LAURENCE, D. R., History of the development of beta-adrenoceptor blocking drugs. *Advances in Beta-adrenergic Blocking Therapy*, ed. A. G. Smart. Amsterdam: Excerpta Medica, 1974, 1–5.

Activities of a centre for clinical pharmacology. *Report 3rd Symp. Clin. Pharmacol. Evaluation in Drug Control, 1*. Copenhagen: WHO Regional Office for Europe, 1975, 31–5.

(with Dunne, J. F.), Minimal requirements of date for drug registration. *Ibid.*, 12–18.

SCHILD, H. O., Receptor classification with special reference to beta-adrenergic receptors. *Drug Receptors*, ed. H. P. Rang. London: Macmillan, 1973, 29–36.

Drug desensitisation and cross-desensitisation in guinea-pig ileum. *Br. J. Pharmac.*, 53 (1975), 448P.

An ambiguity in receptor theory. *Ibid.*, 311.

SCHILD, H. O., HARTLEY, R. E. (with Davies, H. ff. S.), The isolation from spleen tissue of high molecular weight proteins which alter vascular permeability. *Agents and Actions*, 4 (1974), 84–94.

STEINBERG, H. (with Sanger, D. J.), Inhibition of scopolomine-induced stimulation of Y-maze activity by α-meth 1-p-tyrosine and by lithium. *Eur. J. Pharmac.*, 28 (1974), 344–9.

TOMKIEWICZ, M., STEINBERG, H., Lithium treatment reduces morphine self-administration in addict rats. *Nature, Lond.*, 252 (1974), 227–9.

WAN, B. Y., ASSEM, E.-S. K., Cyclic AMP and gastric acid secretion. *Abstract, Advances in Cyclic Nucleotide Research*, ed. G. I. Drummond, P. Greengard, and G. A. Robinson. Amsterdam: North-Holland, 1975, 819.

WAN, B. Y., ASSEM, E.-S. K., SCHILD, H. O., Inhibition of *in vitro* stimulated gastric acid secretion by a histamine H_2-receptor antagonist, metiamide. *Eur. J. Pharmac.*, 29 (1974), 83–8.

WEBSTER, R. A. (with Gardner, C. A.), Action of anti-epileptic drugs on cortical induced epileptopenic activity. *Epilepsy*, ed. F. Harris and C. Mawdelsey. Edinburgh: Churchill Livingstone, 1974, 105–12.

(with Hill, R. G., Miller, A. A., Straughan, D. W.), Neuropharmacological studies on the epileptic action of folic acid. *Ibid.*, x. (Appendix.)

PHYSIOLOGY

ALVAREZ-LEEFMANS, F. J., GARDNER-MEDWIN, A. R., Influences of the septum on the hippocampal dentate area which are unaccompanied by field potentials. *J. Physiol.*, 249 (1975), 14–15P.

BANKS, BARBARA E. C. (with Pearce, F. L.), S.I. units and nutrition. *The Lancet*, ii (1975), 811–12.

(with Shipolini, R.), The amino-acid sequence of a polypeptide from the venom of *Dendroaspis viridis*. *Eur. J. Biochem.*, 49 (1974), 399–405.

(with others), Effects of nerve growth factors from mouse salivary glands and snake venom on the sympathetic ganglia of neonatal and developing mice. *J. Physiol.*, 247 (1975), 289–98.

BANKS, BARBARA E. C., WALTER, S. J. The effects of axotomy and NGF on the neuronal population of the superior cervical ganglion of the mouse. *J. Physiol.*, 249 (1975), 61–2P.

BROCKLEHURST, LYDIA, Dantrolene sodium and 'skinned' muscle fibres. *Nature, Lond.*, 254 (1975), 364.

CURTIN, NANCY A., WOLEDGE, R. C., Energy balance in DNFB treated and untreated frog muscle. *J. Physiol.*, 246 (1975), 737–52.

DAVSON, H., Porous nature of the absorptive mechanism. *Intracranial Pressure*, II, ed. N. Lunberg, U. Ponten, and M. Brook. Berlin, Heidelberg, New York: Springer-Verlag, 1975, 28–34.

Eye and vision, human, *Encyclopædia Britannica* (15th ed.). Chicago: Benton, 1974. *Macropædia*, 7 (1974), 91–106.

DAWSON, M. JOAN, Effect of polyphloretin phosphate on force and heat production in frog sartorius. *J. Physiol.*, 245 (1975), 87–8P.

DICKINSON, VALERIE A., WOLEDGE, R. C., Reduction of shortening heat during a series of tetanic contractions in frog sartorius muscle. *J. Physiol.*, 242 (1974), 98–9P.

DURBIN, G. M., DZIEGIELEWSKA, K. M., EVANS, C. A. N., MALINOWSKA, D. H., REYNOLDS, E. O. R., REYNOLDS, M. L., SAUNDERS, N. R. (with Reynolds, J. M.), An experimental model of perinatal intraventricular haemorrhage. *J. Physiol.*, 249 (1975), 12–13P.

ELLAWAY, P. H., TROTT, JUDY R., The mode of action of 5-hydroxytryptophan in facilitating a stretch reflex in the spinal cat. *Exp. Brain Res.*, 22 (1975), 145–62.

Facilitation of the tonic vibration reflex in the spinal cat by 5-hydroxytryptophan (5-HTP). *J. Physiol.*, 249 (1975), 54–6P.

ENNEVER, J. A., Intracortical transmission of specific evoked activity across the cerebral cortex. *Electroen. Neurophysiol.*, 38 (1975), 281–93.

FRASER, P. A., SMAJE, L. H., Arterio-venous shunts in the submaxillary gland. *Proc. 26 Int. Congr. New Delhi* (1974), 52.

GARTSIDE, IVOR B., Long-term increases in cortical neuronal activity and protein synthesis. *J. Physiol.*, 246 (1975), 94–5P.

(with Gardner, C. R.), Involvement of the thalamus in the direct cortical response in the rat. *Ibid.*, 241 (1974), 57P.

HALLIWELL, J. V., Modification *in vitro* of a synaptic pathway by low temperature. *J. Physiol.*, 246 (1975), 91–2P.

HARKNESS, R. D., HARKNESS, M. L. R., Functional aspects on the ageing of connective tissues. Functional aspects of extracellular material and age.

Proc. 4th Europ. Symp. Basic Research in Gerontology, Scand. J. clin. Lab. Invest Suppl., 141 (1974), 45–7.

(with Bellairs, Ruth), The structure of the tapetum of the eye of the sheep. *Cell Tiss. Res.*, 157 (1975), 73–91.

HARRISON, F. G., The effect of low frequency stimulation of Deiter's nucleus on gastrocnemius fusimotor neurones of the rabbit. *J. Physiol.*, 241 (1974), 94–5.

HARRISON, F. G., PASCOE, J. E., The post-stimulus histogram as an analogue of post-synaptic potentials in fusimotor neurones. *J. Physiol.*, 249 (1975), 11–12P.

HUXLEY, A. F., Review lecture—muscular contraction. *J. Physiol.*, 243 (1974), 1–43.

The origin of force in skeletal muscle, *Ciba Symp.*, 31 (1975), 271–99.

JEFFERYS, J. G. R., Propagation of action potentials into the dendrites of hippocampal granule cells *in vitro*. *J. Physiol.*, 249 (1975), 16–18P.

MCCOMB, J. G., DAVSON, H., HOLLINGSWORTH, J. R., Further studies on the difference between ventricular and subarachnoid perfusion. *Brain Res.*, 89 (1975), 81–91.

MALINOWSKA, DANUTA H. (with Reynolds, J. M.), Quantification of inert isotropic molecular probes in tissue. *J. Physiol.*, 249 (1975), 9–11P.

OSBORNE, A. E., READ, G. L., WILKIE, D. R., Bicycle ergometer with direct readout of torque, speed and power. *J. Physiol.*, 249 (1975), 18–19P.

PASCOE, J. E., Teaching the uses of computers to medical students. *Proc. roy. Soc. Med.*, 67 (1974), 946–8.

SAUNDERS, N. R., Axonal transport of acetylcholine, *Cholinergic Mechanisms*, ed. P. G. Waser, New York: Raven Press, 1975, 177–85.

SMAJE, L. H., Spontaneous secretion in the rabbit submaxillary gland. *Secretory Mechanisms of Exocrine Glands*, ed. N. A. Thorne and O. H. Petersen. Copenhagen: Munksgaard, 1974, 609–25.

TROTT, J. R., Reflex responses of fusimotor neurons during muscle vibration. *J. Physiol.*, 247 (1975), 20–2P.

VERRINDER, A., FRASER, P. A., SMAJE, L. H., The effect of drugs on mass transport across venular walls. *Bio. Reh.*, 11 (1974), 387.

WILKIE, D. R., Second law of thermodynamics. *Nature, Lond.*, 251 (1974), 601–2.

Muscle as a thermodynamic machine. *Ciba Symp.*, 31 (1975), 327–39.

FACULTY OF ENVIRONMENTAL STUDIES

SCHOOL OF ENVIRONMENTAL STUDIES

ABERCROMBIE, M. L. J., *Aims and Techniques of Group Teaching* (3rd ed.). London: Society for Research into Higher Education, 1974. 82 pp.

Teaching in the universities. *Ideas*, 30 (1975), 197–202.

CHRISTIE, B., Ratings of discussions and ratings of media: are they related? *Perceptual & Motor Skills*, 39 (1974), 598.

Perceived usefulness of person-person tele-communications media as a function of the intended application. *Eur. J. Social Psychol.*, 4 (1974), 104–6.

CHRISTIE, B., HOLLOWAY, S., Factors affecting the use of telecommunications by management. *J. Occup. Psychol.*, 48 (1975), 3–9.

COLLINS, M. P., Town and country planning: a review. *Municipal Year Book* (1974), 344–8.

EDWARDS, M., National report: technical background of national policies in the United Kingdom. The future goals for social housing during the seventies and eighties. *International Federation for Housing and Planning Report*. The Hague: International Federation for Housing and Planning, 1975, 80–99.

ELTON, M. C. J., Developments in telecommunications: implications for planners. *Transportation and Environment: Policies, Plans and Practice*, ed. J. Earp, M. McDonald, and T. E. H. Williams. Southampton University Press, 1974.

The use of field trials in evaluating telemedicine applications. *Telemedicine*, ed. R. Bashshur, Z. Youssef, and P. Armstrong. Springfield, Ill.: C. C. Thomas, 1975, 253–99.

FORTY, A., *It's Another World*. Catalogue intro. to R.I.B.A. Drawings Collection Exhibition of Buildings of the South Bank at the Festival of Britain, 1951. London: R.I.B.A., 1974.

The Electric Home. Milton Keynes: Open University, 1975. 50 pp. (Open University Course A305 Unit 20.)

Dirt and machine. *Spare Rib*, 35 (1975), 29–31.

ISSACHAROFF, R. M. (with Harlow, M., Minns, R.), *The Organisation of Housing. Public and Private Enterprise in London*. London: Heinemann, 1974. 175 pp.

KIRBY, H. R., A comment on Cesario's note on trip distribution. *Transportation Res.*, 9 (1975), 83–4.

LICHFIELD, N., Jerusalem planning: a progress report. *Jerusalem*, ed. John M. Oesterreicher and Anne Sinai. New York: John Day, 1974, 175–83.

Planning and development of Jerusalem. *Encyclopaedia Judaica 1973 Year Book*. Jerusalem: Ketter, 1974, 174–85.

Jerusalem planning. *The Planning of Jerusalem*. Tel Aviv: Association of Engineers and Architects in Israel, 1974, 1–29.

Economics in urban renewal. *Economics of Urban Renewal*. Paris: United Nations, 1974, 14–36.

Costs and benefits in residential urban renewal. *Goals for Urban Developments: Yesterday, Today and Tomorrow*. Vienna: International Federation for Housing and Planning, 1974, 511–32.

Costs and benefits in residential accessibility. *Ibid.*, 395–407.

Planning for housing. *Proc. Int. Conf. Housing for the Emerging Nations*. Tel Aviv: Association of Engineers and Architects in Israel, 1974.

(with Kettle, P., Whitbread, M.), *Evaluation in the Planning Process*. Oxford: Pergamon, 1975. 325 pp.

(with Schachar, A.), Urban planning and development in Israel. *Built Environment*, 3 (1974), 605–9.

LOWE, P. D., The Royal Commission on environmental pollution. *Political Quart.*, 46 (1975), 87–94.

Political resources of the environmental lobby. *Built Environment*, 1 (1975), 73–6.

(with Warboys, M.), The teaching of social studies of science and technology in British polytechnics. *Social Studies of Science*, 5 (1975), 177–92.

(with Warboys, M., Marstrand, P.), *Science and the Environment*. I. *The Social Context of the Environment; the Environment as an Ecosystem; Economics and Environment*. Leeds: The Siscon Project, 1975. 36 pp.

(with Warboys, M., Marstrand, P.), II. *Water Pollution; Dereliction. Ibid.*, 26 pp.

MAXWELL, R. M., Milton Keynes—the beautiful city. *Architectural Assoc. Quart.*, vi (1974), 4–16.

MERRETT, S. R., Council rents and British capitalism. *Political Economy and the Housing Question*, ed. M. Edwards, S. R. Merrett, and J. Swann. Cambridge: Political Economy of Housing Workshop, 1975, 68–91.

PYE, R., Telecommunications as a force for changing the location and the organisation of office employment. *Bull. Operational Res. Soc. America*, 22 (1974), 305.

A note on the incorporation of the effect of size in production-constrained location models. *Environment and Planning*, 7 (1975), 111–13.

(with Tyler, R., Cartwright, B.), Telecommunicate or travel? *New Scientist*, 63 (1974), 642–4.

RAE, J., Operational techniques in academic gaming in the United Kingdom. *Proc. 5th Modelling and Simulation Conf.* University of Pittsburg: Instrument Society of America, 1974.

ROWLANDS, E., Trends in education for environmental design (University College London). *Light & Lighting & Environmental Design*, 68 (1975), 29–30.

SIMMIE, J., *Distribution and Land Use Planning*. Essex University: British Sociological Association, 1975.

Rationality in planning. *Proc. Conf. Planning Theory*. Birmingham Polytechnic, 1974.

Planning and the planners. *Proc. Conf. Radical Alternatives in Planning Education*. Polytechnic of Central London, 1975.

Problems of inner cities. *Planning*, 10 (1975), 9.

SYMES, M., A question of balance. *Architectural Design*, xlv (1975), 96. Bristol United Press building: appraisal. *Architects' J.*, 161 (1975), 453–6.

WIBBERLEY, G. P., Rural land use planning—protection or development? *Land Use Policy in the Context of the European Economic Community. Proc. Ann. Congr. Architectural Science Assoc. Ireland* (1974), 9 pp.

Changes in the human social environment brought about by resource problems. *Land Resources: The Next 100 Years. Ontario Agricultural College Centennial Symp.*, 1 (1974), 14 pp.

Rural planning and environmental concern. *Agricultural Economics Soc. G.B.*, xxvii (1975), 16 pp.

Development in the countryside. *J. Environ. Management*, 2 (1974), 16 pp.

WILLIAMS, E., The application of interactive telecommunication systems to education. *Aspects of Educational Technology*. VIII. *Communication and Learning*, ed. J. P. Baggaley, G. H. Jamieson, and H. Marchant. Bath: Pitman Press, 1975, 294–9.

Is 'human factors' answering important questions about telecommunications? *Human Factors in Telecommunications. Proc. 7th Int. Symp., Montreal*. 1975.

Medium or message: communications medium as a determinant of interpersonal evaluation. *Sociometry*, 38 (1975), 119–30.

COMPUTER CENTRE

DAY, A. C., The unsolved problem of computer science. *Computer Bull.*, ser. 2, No. 1 (1974), 18–19.

ILLINGWORTH, J. J., A graphical output system based on SYMAP. *Proc. S.E.A.S. 74 Conf., Zurich 1974*. Nijmegen: Share European Association, 1974, 575–81.

(with Sutor, D. J., Wooley, S. E.), Some aspects of the adult urinary stone problem in Great Britain and Northern Ireland. *Brit. J. Urol.*, 46 (1974), 275–88.

MULLER, F., CROMPTON-ROBERTS, F., The collection and storage of information on filiarisis. *9th Int. Congr. Tropical Medicine and Malaria, Abstr. Invited Papers*. Athens, 1973, 106–7.

SAMET, P. A., Detailed analysis of a program—an instructive horror story. *Software Practice and Experience*, 5 (1975), 211–13.

Note on algorithm 78, counting preferential votes. *Computer J.*, 18 (1975), 184–5.

SHAW, A., Snobol as a general purpose programming language. *Proc. S.E.A.S. 74 Conf., Zurich 1974*. Nijmegen: Share European Association, 1974, 225–34.

THE LIBRARY

BRUCKNER, J., Addenda zu Barockbibliographien. *Wolfenbütteler Barock-Nachrichten*, 1 (1974), 1, 2; 2 (1975), 1.

TOWNSEND, JOHN (with Gilbert, Vic), Bibliography of British labour history 1974. *Bull. Soc. for the study of Labour History*, 30 (1975), 87–102.

HEALTH CENTRE

LUCAS, C. J. (with Crown, S.), Concepts and methods in student mental health. *Brit. J. Psychiat.*, 125 (1974), 595–603.

APPENDIX I

COLLEGE COMMITTEE

Chairman: Sir Bernard Waley-Cohen, BT, LL.D., M.A.‡
Vice-Chairman: Sir Edward Playfair, K.C.B.‡
Treasurer: F. E. P. Sandilands, C.B.E., M.A.
The Right Hon. Lord Annan, O.B.E., M.A., D.LITT., D.U., *Provost*‡
Sir Desmond Bonham-Carter, T.D.
Mrs Irene Chaplin, B.A., J.P.
Sir Edwin Chapman-Andrews, K.C.M.G., O.B.E., B.A.†
Professor G. C. Drew, M.A.
E. Falk
N. B. Harte, B.SC.(ECON.)
P. W. Heath, B.SC.(ECON.)
Professor K. O. Kemp, B.SC.(ENG.), PH.D., C.ENG., M.I.C.E., M.I.STRUCT.E.
Margaret Marshall, M.A., A.C.I.S.
Professor W. R. Mead, D.SC.(ECON.), PH.D., F.D.
Sir Angus Paton, C.M.G., B.SC., C.ENG., F.I.C.E., F.A.S.C.E., F.R.S.†
S. W. C. Phillips, C.B., B.A.†
Janet Powney
Professor B. R. Rabin, M.SC., PH.D.
The Hon. Jacob Rothschild
Professor E. H. Scamell, LL.M.
J. Vickers, M.A.
B. C. G. Whitaker, B.A.
H. B. Wright, M.B., F.R.C.S.

ASSESSORS

Professor P. R. Banham, PH.D.
R. C. Fisher, M.A., PH.D.
A. Jones¶
D. M. Love¶
J. A. Plowright§
C. Ray§
The Dean of Students
The Senior Tutor
Maxine P. M. Merrington, PH.D.

†Fellow of the College. ‡Hon. Fellow of the College. §Membership terminated before 30 September 1975. ¶Appointed after 1 October 1974.

APPENDIX II

PROFESSORIAL BOARD

Chairman: The Right Hon. Lord Annan, O.B.E., M.A., D.LITT., D.U., *Provost*‡
C. Abramsky, M.A., Goldsmid Professor of Hebrew and Jewish Studies
J. D. R. Adams, LL.B., Lecturer in Law*
J. T. Aitken, M.D., Professor of Anatomy
J. E. Anderson, PH.D., Lecturer in Chemistry*
E. A. Ash, PH.D., D.SC.(ENG.), D.I.C., A.C.G.I., C.ENG., F.I.E.E., F.I.E.E.E., F.INST.P., Professor of Electrical Engineering
K. B. Atkinson, B.SC., Lecturer in Photogrammetry and Surveying*
R. J. Audley, PH.D., Professor of Psychology
P. R. Banham, PH.D., Professor of History of Architecture
Barbara E. C. Banks, M.SC., PH.D., F.R.I.C., Lecturer in Physiology*
T. Barnard, PH.D., D.I.C., Professor of Micropalaeontology
N. A. Barnicot, PH.D., Professor of Physical Anthropology†¶
Lisbeth-Anne H. Bawden, M.A., Lecturer in Fine Art*
W. Beckerman, M.A., PH.D., Professor of Political Economy
P. R. Bell, M.A., Professor of Botany
H. Billett, B.SC.(ENG.), HON.R.C.N.C., C.ENG., M.I.MECH.E., A.F.R.AE.S., Professor of Mechanical Engineering, *Vice-Provost*
R. E. D. Bishop, PH.D., D.SC.(ENG.), SC.D., HON.R.C.N.C., C.ENG., F.I.MECH.E., A.F.R.AE.S., Kennedy Professor of Mechanical Engineering†
J. W. Black, M.B., CH.B., Professor of Pharmacology
P. J. Bowen, B.SC.(ENG.), PH.D., Lecturer in Physics and Astronomy*
R. L. F. Boyd, C.B.E., B.SC.(ENG.), PH.D., C.ENG., F.I.E.E., F.R.S., Professor of Physics
E. H. Brown, M.SC., PH.D., Professor of Geography
E. H. S. Burhop, B.A., M.SC., PH.D., D.U., F.R.S., Professor of Physics
J. H. Burns, M.A., PH.D., Professor of the History of Political Thought
G. Burnstock, PH.D., D.SC., F.A.A., Professor of Anatomy (from 1 April 1975)
P. H. W. Butterworth, PH.D., Lecturer in Biochemistry*
L. Castillejo, M.A., B.SC.(ENG.), Professor of Physics
B. Cheng, LL.D., LIC.-EN-DR., Professor of Air and Space Law
I. R. Christie, M.A., Professor of Modern British History
Patricia H. Clarke, B.A., D.SC., Professor of Microbial Biochemistry
Sir William Coldstream, C.B.E., D.LITT., Slade Professor of Fine Art†
R. Collins, B.SC., PH.D., C.ENG., M.I.MECH.E., Senior Lecturer in Mechanical Engineering*
R. U. Cooke, M.SC., PH.D., Lecturer in Geography*
D. C. Cooper, PH.D., F.B.C.S., Professor of Computer Science
P. E. Corbett, M.A., Yates Professor of Classical Art and Archaeology

*Elected for membership during Session 1974–75 (College Statute 24(4), Regulation 29). †Fellow of the College. ‡Hon. Fellow of the College. ¶Died 14 May 1975.

P. D. Cowan, DIPL.ARCH., PH.D., Professor of Planning Studies
A. L. Cullen, O.B.E., D.SC.(ENG.), C.ENG., F.C.G.I., F.I.E.E., F.I.E.E.E., F.INST.P., Pender Professor of Electrical Engineering
J. S. Cummins, PH.D., Professor of Hispanic Studies
S. P. Datta, B.SC., M.B., B.S., Professor of Medical Biochemistry, *Vice-Provost*†
A. G. Davies, D.SC., F.R.I.C., Professor of Chemistry
D. E. N. Davies, D.SC., C.ENG., F.I.E.E., M.I.E.R.E., Professor of Electrical Engineering
A. M. J. Davis, M.A., PH.D., Lecturer in Mathematics (from 1 January 1975)*
D. G. Davis, PH.D., Senior Lecturer in Physics and Astronomy*
G. D. Dawson, M.SC., M.B., CH.B., Professor of Physiology
Cecily de Monchaux, PH.D., Senior Lecturer in Psychology*
J. M. Dodgson, M.A., Reader in English*
D. T. Donovan, D.SC., Yates-Goldsmid Professor of Geology
M. Mary Douglas, M.A., D.PHIL., Professor of Social Anthropology
G. C. Drew, M.A., Professor of Psychology
C. D. Easteal, B.SC., M.ENG., Senior Lecturer in Statistics and Computer Science*
R. C. Fisher, M.A., PH.D., Senior Lecturer in Zoology and Comparative Anatomy*
P. G. Foote, M.A., FIL.DR., Professor of Scandinavian Studies
J. R. Forrest, M.A., D.PHIL., C.ENG., M.I.E.E., M.INST.P., Lecturer in Electronic and Electrical Engineering*
J. W. Fox, PH.D., F.INST.P., Senior Lecturer in Physics and Astronomy*
D. B. Fry, PH.D., Professor of Experimental Phonetics
J. Garside, PH.D., C.ENG. M.I.CHEM.E., Lecturer in Chemical Engineering*
A. C. Gimson, B.A., Professor of Phonetics†
G. P. Goold, A.M., PH.D., Professor of Latin
E. G. Gray, B.SC., PH.D., Professor of Anatomy (Cytology)
A. L. Greenbaum, PH.D., D.SC., Professor of Biochemistry
B. D. Greenslade, M.A., Senior Lecturer in English Language and Literature*
G. V. Groves, M.A., PH.D., Professor of Physics
J. R. Hale, M.A., F.S.A., Professor of Italian
E. W. Handley, M.A., F.B.A., Professor of Greek
R. D. Harkness, B.SC., M.B., B.S., M.R.C.S., L.R.C.P., Professor of Physiology†
E. J. Harris, PH.D., D.SC., D.I.C., Reader in Biophysics*
H. Harris, M.A., M.D., F.R.C.P., F.R.S., Galton Professor of Human Genetics
N. B. Harte, B.SC.(ECON.), Lecturer in Economic History*
P. D. Henderson, M.A., Professor of Political Economy (from 1 May 1975)
F. F. Heymann, B.SC.(ENG.), PH.D., Professor of Physics
Ted Honderich, B.A., PH.D., Reader in Philosophy*
R. G. Hopkinson, B.SC.(ENG.), PH.D., C.ENG., HON.R.I.B.A., F.I.E.E., F.I.H.V.E., P.P.ILLUM.E.S., Haden-Pilkington Professor of Environmental Design and Engineering
J. Hurstfield, D.LIT., Astor Professor of English History†
Sir Andrew Huxley, M.A., D.SC., M.D., F.R.S., Professor of Physiology and Royal Society Research Professor

*†See footnote on p. 109.

R. I. Ireland, B.A., Lecturer in Greek and Latin*
E. R. H. Ivamy, LL.D., Professor of Law†
K. J. Ives, D.SC.(ENG.), PH.D., C.ENG., M.I.C.E., M.A.S.C.E., Professor of Public Health Engineering
D. W. James, M.B., B.S., M.R.C.S., L.R.C.P., Professor of Anatomy
I. E. Tregarthen Jenkin, M.A., Secretary and Tutor, Slade School of Fine Art*
D. W. J. Johnson, B.A., B.LITT., Professor of French History
M. A. Jones, M.A., D.PHIL., Commonwealth Fund Professor of American History
Sheila Heywood Jones, M.A., PH.D., Lecturer in Psychology*
W. J. D. Jones, B.SC.(ENG.), PH.D., A.R.S.M., D.I.C., A.I.M., Reader in Engineering Metallurgy*
Sir Bernard Katz, M.D., PH.D., D.SC., F.R.C.P., F.R.S., Professor of Biophysics†
K. O. Kemp, B.SC.(ENG.), PH.D., C.ENG., M.I.C.E., M.I.STRUCT.E., Chadwick Professor of Civil Engineering
K. A. Kermack, PH.D., Reader in Vertebrate Palaeontology*
P. T. Kirstein, D.SC.(ENG.), C.ENG., F.I.E.E., F.INST.P., F.B.C.S., Professor of Computer Systems
O. H. G. Koenigsberger, D.ENG., DIP.ENG., R.I.B.A., M.R.T.P.I., Professor of Development Planning
Valentine Korah, PH.D., Reader in English Law*
T. H. Lambert, B.SC.(ENG.), PH.D., HON.R.C.N.C., C.ENG., M.I.MECH.E., Professor of Mechanical Engineering
W. H. A. Larrett, B.A., Lecturer in German*
D. R. Laurence, M.D., F.R.C.P., Professor of Pharmacology and Therapeutics
Annette C. M. Lavers, PH.D., L.ÈS L., D.E.S., Reader in French*
A. J. Layton, PH.D., Research Fellow in Chemistry*
D. Lewis, D.SC., F.R.S., Quain Professor of Botany
N. Lichfield, B.SC., PH.D., C.ENG., P.P.R.T.P.I., F.R.I.C.S., M.I.MUN.E., Professor of the Economics of Environmental Planning
D. V. Lindley, M.A., Professor of Statistics
J. M. A. Lindon, B.A., Lecturer in Italian*
The Right Hon. Lord Llewelyn-Davies, M.A., R.I.B.A., F.R.T.P.I., Professor of Urban Planning
The Right Hon. Lord Lloyd, Q.C., M.A., LL.D., Quain Professor of Jurisprudence†
D. Lowenthal, M.A., PH.D., Professor of Geography
A. Maccoll, PH.D., D.SC., F.R.I.C., Professor of Chemistry
T. D. McFarland, M.A., Lecturer in German*
M. L. McGlashan, PH.D., D.SC., F.R.I.C., Professor of Chemistry
Sir Harrie Massey, D.SC., PH.D., LL.D., F.R.S., Quain Professor of Physics
A. P. Mathias, PH.D., Professor of Biochemistry
A. I. Matus, M.SC., PH.D., Associate Research Fellow in Anatomy and Embryology*
W. R. Mead, D.SC.(ECON.), PH.D., F.D., Professor of Geography
Pauline M. Meadow, M.A., PH.D., Reader in Biochemistry*
Maxine P. M. Merrington, PH.D., Lecturer in Statistics and Computer Science*

*†See footnote on p. 109.

R. Miledi, M.D., F.R.S., Professor of Biophysics and, from 1 March 1975, Royal Society Foulerton Research Professor
D. J. Millen, PH.D., D.SC., Professor of Chemistry
Karl Miller, M.A., Lord Northcliffe Professor of Modern English Literature
M. A. Millner, B.A., LL.D., B.C.L., Professor of Law
N. A. Mitchison, D.PHIL., F.R.S., Jodrell Professor of Zoology and Comparative Anatomy
A. D. Momigliano, K.B.E., M.A., D.LITT., F.B.A., Professor of Ancient History
J. L. Mongar, PH.D., Professor of Pharmacology
I. Morris, PH.D., Lecturer in Botany and Microbiology (to 31 December 1974)*
J. W. Mullin, PH.D., D.SC., C.ENG., F.I.CHEM.E., F.R.I.C., Professor of Chemical Engineering
R. J. C. Munton, PH.D., Lecturer in Geography*
J. Musgrove, B.ARCH., R.I.B.A., Professor of Architecture
J. A. North, M.A., D.PHIL., Lecturer in Ancient History*
J. E. Parkin, PH.D., Lecturer in Chemistry*
R. M. Perkins, M.A., D.PHIL., Lecturer in Scandinavian Studies*
E. A. Power, D.SC., PH.D., Professor of Mathematics
Randolph Quirk, M.A., PH.D., D.LIT., F.B.A., Quain Professor of English Language and Literature†
B. R. Rabin, M.SC., PH.D., Professor of Biochemistry
P. M. Rattansi, M.A., PH.D., Professor of History and Philosophy of Science
K. J. Rawson, R.C.N.C., C.ENG., F.R.I.N.A., Professor of Naval Architecture
J. H. Ridd, PH.D., D.SC., F.R.I.C., Professor of Chemistry
R. W. Rideout, PH.D., Professor of Labour Law
C. A. Rogers, D.SC., F.R.S., Astor Professor of Mathematics†
P. N. Rowe, B.SC.(TECH.), PH.D., D.SC.(ENG.), C.ENG., F.I.CHEM.E., D.I.C., Ramsay Memorial Professor of Chemical Engineering
E. C. Ryder, M.A., LL.B., Professor of English Law
P. A. Samet, PH.D., F.B.C.S., F.I.M.A., Professor of Computer Science
E. H. Scamell, LL.M., Professor of English Law
G. Schwarzenberger, PH.D., DR.JUR., Professor of International Law
A. F. D. Scott, B.SC., Research Assistant in Physics and Astronomy*
J. W. Scott, B.A., A.L.A., Librarian
M. A. Screech, D.LITT., Fielden Professor of French Language and Literature
M. J. Seaton, PH.D., F.R.S., Professor of Physics†
J. M. Simmie, B.SC.(ECON.), M.PHIL., Lecturer in Environmental Studies*
R. J. Smeed, C.B.E., PH.D., Professor of Traffic Studies
C. A. B. Smith, M.A., PH.D., Weldon Professor of Biometry
H. S. Smith, M.A., Edwards Professor of Egyptology
M. G. Smith, PH.D., Professor of Anthropology
F. Sondheimer, PH.D., F.R.S., Professor of Chemistry and Royal Society Research Professor
Stephen Spender, C.B.E., D.LITT., Professor of English
J. Spraos, M.A., Professor of Political Economy

*†See footnote on p. 109.

Hannah Steinberg, PH.D., Professor of Psychopharmacology
J. P. Stern, M.A., PH.D., Professor of German
K. Stewartson, M.A., PH.D., F.R.S., Goldsmid Professor of Mathematics
M. Stone, PH.D., Professor of Probability and Statistics
R. N. Strange, PH.D., Lecturer in Botany and Microbiology*
K. W. Swart, LITT.D.(LEIDEN), Professor of Dutch History and Institutions
M. S. Symes, M.A., DIP.ARCH., PLAN.DIP., R.I.B.A., Lecturer in Environmental Studies*
J. A. C. Thomas M.A., LL.B., Professor of Roman Law
E. H. Thompson, O.B.E., M.A., SC.D., F.R.I.C.S., Professor of Photogrammetry and Surveying
M. L. Tobe, PH.D., D.SC., F.R.I.C., Professor of Chemistry
D. A. Turin, DIPL.ARCH., S.C.A., F.I.O.B., London Master Builders Professor of Building
E. G. Turner, C.B.E., M.A., DR.PHIL.ET LETTRES, F.B.A., Professor of Papyrology
V. P. Underwood, PH.D., D.ÈS L., Professor of French
C. A. Vernon, D.SC., Professor of Chemistry
B. C. Vickery, M.A., F.L.A., Professor of Library Studies
K. Walker, M.A., PH.D., Lecturer in English Language and Literature*
P. D. Wall, M.A., D.M., Professor of Anatomy
G. L. Watson, M.A., PH.D., D.SC., Professor of Mathematics
N. F. Watson, B.ARCH., R.I.B.A., Bartlett Professor of Architecture
R. A. Webster, PH.D., Senior Lecturer in Pharmacology*
D. J. B. White, PH.D., Senior Lecturer in Botany and Microbiology†*
J. E. C. T. White, M.A., PH.D., Durning-Lawrence Professor of the History of Art
G. P. Wibberley, C.B.E., M.S., PH.D., Ernest Cook Professor of Countryside Planning
D. R. Wilkie, M.D., M.B., B.S., F.R.C.P., F.R.S., Jodrell Professor of Physiology†
Elizabeth M. Wilkinson, PH.D., LL.D., D.LITT., F.B.A., Professor of German
D. M. Wilson, M.A., F.S.A., Professor of Medieval Archaeology
R. Wilson, PH.D., F.R.S., Perren Professor of Astronomy
K. Wolfenden, M.A., Professor of Information Processing
Richard Wollheim, M.A., F.B.A., Grote Professor of Philosophy of Mind and Logic
E. Yarimer, PH.D., Lecturer in Civil and Municipal Engineering*

*†See footnote on p. 109.

ASSESSORS

The Sub-Deans of the Faculties:

Arts: G. F. Arnold, B.A.

Laws: R. H. F. Austin, B.A., LL.M.

Science: C. Dodd, PH.D.†

Engineering: H. Marriott, B.ENG., B.SC.(ECON.), C.ENG., F.I.E.E.

Medical Sciences: E. C. B. Hall-Craggs, M.A., M.B., B.CHIR., PH.D.

Environmental Studies: B. B. Nutt, B.A.

Student Assessors—during the period to 31 March 1975:

J. Armstrong, B.SC.
R. L. Davies
Ann M. Dempsey
A. J. Gough, B.A.
M. G. John
Anne C. Kurowska
K. J. McConway, B.A., M.SC.
S. Hilary Peate
B. G. Pettet
S. J. F. Phillips
C. Ray§
Anne M. Sherman
Hilary M. Simmons
M. S. Walker
M. G. Wilson, B.A.

Student Assessors—during the period from 1 April 1975:

Diana Faber
Jacqueline A. Gilbert
P. J. Goddard, B.SC.
A. Jones§
R. P. Morgan, B.SC.
Carol E. Morrison
P. A. Probyn
J. E. P. Ruffer
S. P. Stone
T. K. Weber

†See footnote on p. 109. §President of the Union.

APPENDIX III

HONORARY FELLOWS AND FELLOWS

The following elections were made in 1975:

HONORARY FELLOWS

Sir Douglas William Logan, HON.F.D.S.R.C.S., HON.R.I.B.A., formerly Principal, University of London.

Professor John Zachary Young, F.R.S., Emeritus Professor of Anatomy, University College London.

FELLOWS

Dr Meyer Fortes, F.B.A., Visiting Professor of Anthropology, University College London; formerly Professor of Social Anthropology, University of Cambridge.

Professor Alfred Charles Gimson, Professor of Phonetics, University College London.

Mr Alan Arthur Clement Griffith, O.B.E., Manging Director, David Brown-Vosper (Offshore) Ltd.

Dr Anthony Trafford James, Group Manager of the Biosciences Group, Unilever's Colworth House Laboratories.

Dr Vassos Karageorghis, Director of Antiquities, Cyprus.

Professor Roger Penrose, F.R.S., Rouse Ball Professor of Mathematics, University of Oxford.

Mr George Qvist, F.R.C.S., L.R.C.P., Surgeon, Royal Free Hospital, Willesden General Hospital, and Royal National Throat, Nose and Ear Hospital.

Mr Donovan Thomas Richnell, C.B.E., F.L.A., Director General, Reference Division, British Library.

Dr William Alexander Campbell Stewart, D.L., Vice-Chancellor, University of Keele.

Dr Donald James Butt White, Senior Lecturer, Tutor, and Postgraduate Adviser to Botany Students, University College London.

APPENDIX IV

PUBLIC LECTURES

ENDOWED LECTURES

COMMONWEALTH FUND LECTURE

Professor David H. Donald, Harvard: 'An Age of Ambiguity: the United States in Transition, 1828–1854'

FREUD MEMORIAL LECTURES IN PSYCHOANALYSIS

Mrs Enid Balint: 'The Psychoanalyst and Medicine'

Professor Erik H. Erikson: 'The Child's Toys and the Old Man's Reasons' (two lectures)

Dr André Green, Paris Psychoanalytic Institute: 'Orestes and Oedipus: a Structural Analysis'

Dr H. P. Hildebrand, Tavistock Clinic: 'Violent Social Change and the Psychoanalyst'

Professor Elliott Jaques, Brunel: 'The Good Society and the Aims of Psychoanalysis'

Dr Charles Rycroft: 'Psychoanalysis and the Literary Imagination'

Mrs Anne-Marie Sandler: 'The Significance of Piaget's Work for Psychoanalysis'

Dr Hanna M. Segal: 'The Inner World and its Reflection in Art'

Dr J. D. Sutherland: 'Developments in Psychoanalysis' (nine lectures)

Professor Richard Wollheim: 'Freud and the Interpretation of Art'

RICKMAN GODLEE LECTURE

Professor Glyn Daniel, Cambridge: 'Prejudice, Politics and Plunder in Archaeology'

JACOB HERZOG MEMORIAL LECTURE

Mr Arthur J. Goldberg: 'American Foreign Policy in the Middle East: 1967 and Now'

MILDNER LECTURE

Mr W. J. Bray, The Post Office: 'The Expanding Role and Integration of Telecommunications'

THE NEALE LECTURE IN ENGLISH HISTORY

Mr Michael Howard, Oxford: ' "The British Way in Warfare": a Reappraisal'

LORD NORTHCLIFFE LECTURES IN LITERATURE

Professor Erich Heller, Northwestern University, Illinois: 'The Poet's Self and the Poem' (four lectures)

WILLIAM TOWNSEND MEMORIAL LECTURE

Mr Robyn Denny: 'Art and the State, and the state of Art'

INAUGURAL LECTURE

Professor C. Abramsky, Goldsmid Professor of Hebrew and Jewish Studies: 'War, Revolution and the Jewish Dilemma'

LUNCH-HOUR LECTURES AND FILMS

LECTURES

Professor C. Abramsky: 'Marx and the English Labour Movement'
Professor H. Billett: 'Some Like it Hot!—The Energy Crunch'
Professor R. E. D. Bishop: 'Well, who *was* Kennedy?'
Dr N. F. Dixon: 'Perception without Awareness'
Mrs Antonia Duffy: 'Readers, Writers, and Characters: some thoughts on the relationship between people inside and outside the novels
Mr M. Edwards: 'Is the "Inner City Problem" a Diversion?'
Dr M. Kay Flavell: 'George Eliot in Weimar'
Dr J. R. Forrest: 'Microwaves—The First Hundred Years'
Mr B. D. Greenslade: 'The Tercentenary of Milton's Death: a reading from his poetry'
Professor J. R. Hale: 'How Machiavellian was Machiavelli?'
Professor F. F. Heymann: 'How to Make Ends Meet'
Professor J. Hurstfield: 'The Political Face of Corruption: Elizabethan Practice and Shakespeare's Plays'
Mr R. I. Ireland: 'The Actress and the Emperor: Portraits of Theodora and Justinian'
Professor N. Lichfield: 'Labour's Policy for Land'
Mr N. Lisborg: 'Of Ants and Architecture—Problems of Scale and Proportion'
Mr A. Markandya: 'The Distribution of Ability, Education and Income'
Dr R. M. Perkins: 'The Arab and the Viking: Muslim Views of the Norsemen in the Middle Ages'
Professor M. A. Screech: 'Rabelais versus Calvin'
Mr A. J. P. Taylor: 'The Origins of the First World War'
Miss Nissa Torrents: 'The Latin-American Intellectual as an Exile'
Professor E. G. Turner: 'The Pen is Mightier than the Sword: newly found written Greek texts of the time of Alexander the Great'
Dame Veronica Wedgwood: 'Cromwell in Poetry and Drama'
Professor D. M. Wilson: 'The Archaeology of the Vikings in the Isle of Man'
Professor Richard Wollheim: 'Milton's "Areopagitica" '
Professor J. Z. Young: 'Some Problems in the Study of Memory'

FILMS*

'Faces of Royalty: The Artist's Impression'. B.B.C. Enterprises films with commentaries by Dr Roy Strong:

I. 'Henry VIII—The Most Goodliest Prince' and 'Elizabeth I—Mask or Reality?'
II. 'Charles I—The Making of a Martyr' and 'Charles II—The New Image of Monarchy'
III. 'George IV—The Caricature King' and 'Victoria—From Canvas to Celluloid'

'Edwardian Summer' (a compilation of films made between 1905 and 1910)
'Over by Christmas' (a film compiled in 1914)
'Fast and Far in the Twenties' (a compilation of film clips made in the 1920s)

*All the films were introduced by Miss Suzanne Budgen.

GREEK

Dr Vassos Karageorghis, Director of Antiquities, Cyprus: 'Recent Archaeological Discoveries in Cyprus'

LAWS

Professor E. D. Brown, University of Wales Institute of Science and Technology: 'Aspects of the 3rd U.N. Conference on the Law of the Sea'

Professor René Joliet, Liège: 'The Protection of Industrial Property, Competition and the Free Movement of Goods in the E.E.C.'

MECHANICAL ENGINEERING

Mr John Archer, Department of Trade: 'Britain and the Sea'

Mr John Prescott: 'Britain and the Sea'

Lord Ironside of Archangel and Ironside and Commander Michael Ranken: 'Britain and the Sea'

SCANDINAVIAN STUDIES

Professor Sten Carlsson, Uppsala: 'Social Mobility in Sweden'

Mr Gunnar Fagrell: 'Admiral Saumarez and Sweden'

APPENDIX V

NUMBERS OF STUDENTS, 1974–75

	Under-graduate	*Post-graduate*	*Totals*
Faculty of Arts	1,231 (270)	487 (182)	1,718 (452)
Department of Political Economy ..	200 (0)	30 (3)	230 (3)
Slade School of Fine Art	74 (1)	101 (14)	175 (15)
	1,505 (271)	618 (199)	2,123 (470)
Faculty of Science	1,188 (5)	*617 (149)	1,805 (154)
Faculty of Medical Sciences	280 (0)	2 (1)	282 (1)
Faculty of Engineering	361 (9)	218 (48)	579 (57)
Faculty of Laws	†322 (28)	‡157 (43)	479 (71)
Faculty of Environmental Studies ..	159 (3)	226 (47)	385 (50)
	3,815 (316)	§1,838 (487)	5,653 (803)

The figures in brackets indicate the number of part-time students included in the total under each head.

* This figure includes 86 full-time and 28 part-time students working in the College Faculty of Medical Sciences who were registered in the University Faculty of Science.

†This figure includes 9 full-time undergraduate students studying for the B.Sc. in International Relations who were registered in the University Faculty of Economics.

‡This figure includes 8 full-time students studying for the M.Sc. in International Relations who were registered in the University Faculty of Economics.

§Of this number 1,014 full-time students and 436 part-time students were registered for higher degrees of the University of London; the remainder were working for higher diplomas of the University or of the College, or for the higher degrees of other universities or were engaged in research work, or attending postgraduate lecture courses.

APPENDIX VI

GEOGRAPHICAL DISTRIBUTION OF STUDENTS, SESSION 1974–75

	Under-graduate	*Post-graduate*	*Totals*
UNITED KINGDOM	3,398	1,122	4,520
BRITISH COMMONWEALTH OF NATIONS			
Australia	4	25	29
Bangladesh	3	7	10
Canada	10	42	52
Cyprus	22	13	35
Hong Kong	21	13	34
India	4	31	35
Malaysia	37	12	49
New Zealand	1	10	11
Nigeria	7	16	23
Sri Lanka	10	9	19
17 other countries	36	32	68
OTHER PARTS OF THE WORLD			
Egypt	3	13	16
France	21	7	28
Greece	28	75	103
Iran	18	30	48
Iraq	4	20	24
Israel	4	10	14
Italy	3	8	11
Japan	8	14	22
Mexico	4	15	19
Pakistan	6	15	21
Portugal	1	10	11
South Africa	3	19	22
Spain	7	4	11
Sudan	2	8	10
Turkey	4	19	23
U.S.A.	66	101	167
Venezuela	7	15	22
West Germany	13	20	33
47 other countries	60	103	163
	3,815	1,838	5,653

SUMMARY

United Kingdom	4,520
British Commonwealth of Nations	365
Other parts of the world	768
	5,653

APPENDIX VII

ADMISSION OF FIRST DEGREE AND FIRST DIPLOMA STUDENTS SESSION 1974–75

FACULTY OF ARTS	*Students admitted October* 1974
B.A. Honours	
Ancient History & Social Anthropology	4
Anthropology & Linguistics	5
Archaeology—Anglo-Saxon and early medieval European	11
Classics	15
Classics & Ancient History	2
English	46
English & History of Art	7
English & Linguistics	2
French	32
French & History of Art	3
French & Linguistics	4
Geography	44
German	15
German & History of Art	4
German & Linguistics	4
German & a Scandinavian Language	7
Hebrew	3
History (Ancient & Medieval)	4
History (Medieval & Modern)	42
History & History of Art	4
Italian	3
Italian & History of Art	1
Modern Iberian & Latin American Regional Studies	10
Philosophy	26
Philosophy & Economics	1
Philosophy & History of Art	2
Philosophy & Linguistics	5
Scandinavian Studies	9
	315
B.Sc. in the University Faculty of Economics	
Economics	32
Economics & Economic History	8
Economics & Geography	16
Economics & Social Anthropology	4
Economics & Statistics	13
	73
University Diploma in Fine Art	20

	Students admitted October 1974
FACULTY OF LAWS	
LL.B.	110
FACULTY OF SCIENCE	
B.Sc. Degree	
Anthropology	35
Astronomy	21
Astronomy/Physics	16
Biochemistry	22
Biology	15
Botany	1
Chemistry	25
Chemistry/Physics	2
Genetics/Microbiology	4
Genetics/Zoology	6
Geography	34
Geology	19
Mathematics	53
Medicinal Chemistry	8
Microbiology	17
Pharmacology	10
Physics	24
Physics (Applied)	7
Physiology	9
Psychology	64
Statistics	4
Statistics & Computer Science	9
Zoology	20
	425
FACULTY OF ENGINEERING	
B.Sc. (Eng.)	
Civil & Municipal Engineering	40
Electronic & Electrical Engineering	31
Mechanical Engineering	14
Mechanical Engineering (Naval Architecture)	21
Chemical Engineering	16
Biochemical Engineering	10
	132
FACULTY OF MEDICAL SCIENCES	
M.B., B.S. (Preclinical)	116
2nd B.D.S.	50
	166
FACULTY OF ENVIRONMENTAL STUDIES	
B.Sc. Degree in Architecture, Planning, Building and Environmental Studies	54
Total	1,295

APPENDIX VIII

UNIVERSITY FIRST DEGREE AND DIPLOMA AWARDS
1 OCTOBER 1974 — 30 SEPTEMBER 1975

FACULTY OF ARTS

B.A. Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Classics	2	2	4	—	1	9
English	3	22	8	2	—	35
French	4	13	9	—	—	26
Geography	—	24	18	2	—	44
German	2	9	6	3	—	20
Hebrew	—	1	1	—	—	2
Hebrew Literature and Jewish History	—	1	2	1	—	4
History	—	18	14	2	—	34
Modern Iberian and Latin American Regional Studies	—	2	6	1	—	9
Philosophy	—	8	6	1	—	15
Scandinavian Studies	—	5	2	—	1	8
Anthropology and Linguistics	—	3	3	—	—	6
English and History of Art	—	2	1	—	—	3
French and History of Art	—	—	2	—	—	2
French and Linguistics	—	—	—	1	—	1
German and History of Art	1	—	—	1	—	2
German and Linguistics	—	1	—	—	—	1
German and Swedish	—	2	—	—	—	2
Hebrew and Egyptian	—	—	1	—	—	1
History and History of Art	1	2	1	—	—	4
Italian and Rumanian	1	—	—	—	—	1
Norwegian and Icelandic	—	—	—	1	—	1
Philosophy and History of Art	1	2	—	1	—	4
Philosophy and Linguistics	—	1	—	—	—	1
	15	118	84	16	2	235

B.A. Degree (Aegrotat)					*Pass*	*Total*
French	—	—	—	—	1	1
Scandinavian Studies	—	—	—	—	1*	1
					2	2

*Awarded retrospectively to 1974.

University Diploma in Fine Art: 16 students passed.

FACULTY OF LAWS

	1st Class Honours	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
LL.B. Degree	2	17	49†	13	3	84
LL.B. Degree (Aegrotat)	—	—	—	—	1	1

†Includes one degree not shown in the Annual Report for 1972–73.

FACULTY OF MEDICINE

Basic Medical Sciences and Pharmacology Examination: 107 students passed.
Second Examination for Dental Degrees: 49 students passed.

FACULTY OF SCIENCE

B.Sc. Degree	1st Class Honours	2nd Class Honours Upper Div.	2nd Class Honours Lower Div.	3rd Class Honours	Pass	Total
Anatomy	3	5	2	—	—	10
Anthropology	—	7	9	1	—	17
Applied Physics	—	6	5	5	1	17
Architecture, Planning, Building and Environmental Studies	3	7	14	11	2	37
Astronomy	2	3	6	4	—	15
Biochemistry	6	9	11	1	—	27
Biology	—	—	1	—	—	1
Botany	—	6	—	1	—	7
Chemistry	5	7	18	5	1	36
Chemistry and Physics	3	2	—	1	1	7
Genetics	—	2	2	—	—	4
Geography	1	7	13	—	—	21
Geology	1	5	2	3	1	12
Human Biology	1	3	—	—	—	4
Immunology	2	2	1	—	—	5
Information Science	—	—	1	1	—	2
Mathematics	8	5	15	10	4	42
Microbiology	3	11	14	1	—	29
Pharmacology	2	10	3	—	—	15
Physics	2	3	2	6	2	15
Physiology	2	7	4	—	—	13
Psychology	4	20	17	1	—	42
Statistics	1	2	3	2	1	9
Zoology	2	7	8	3	—	20
	51	136	151	56	13	407

FACULTY OF ENGINEERING

B.Sc. (Engineering) Degree	1st Class Honours	2nd Class Honours Upper Div.	2nd Class Honours Lower Div.	3rd Class Honours	Pass	Total
Chemical Engineering	—	8	4	8	2	22
Civil Engineering	1	11	8	8	4	32
Electrical Engineering	1	4	2	3	2	12
Electronic Engineering	6	5	2	6	1	20
Mechanical Engineering	1	2	3	3	3	12
Naval Architecture	1	3	2	—	—	6
	10	33	21	28	12	104

	Pass	Total
B.Sc. (Engineering) Degree*	1	1
B.Sc. (Engineering) Degree in Chemical Engineering*	1	1

*(Old Regulations).

FACULTY OF ECONOMICS

	1st Class Honours	2nd Class Honours Upper Div.	2nd Class Honours Lower Div.	3rd Class Honours	Pass	Total
B.Sc. (Economics) Degree	3	18	36	10	2	69
B.Sc. Degree in International Relations	—	4	5	—	—	9

APPENDIX IX

UNIVERSITY HIGHER DEGREE AND HIGHER DIPLOMA AWARDS

1 OCTOBER 1974—30 SEPTEMBER 1975

FACULTY OF ARTS

Ph.D. *Egyptology:* Ali A-R. H. El-Khouli. *English Language and Literature:* Melvyn F. Elphee, Penelope D. Gay, Freema P. Gottlieb, Woodrow L. Kirby Jnr., Christopher C. Norris, Terry K. Pratt, James E. Sait, Sylvia Sklar, Marion S. Trousdale, Michael D. Wheeler. *Geography:* David J. North. *German:* Bertha E. Spurway. *Hebrew and Jewish Studies:* Robert S. Wistrich. *History:* Brigid M. M. Allen, David H. Barry, Peter H. Blanchard, †Geoffrey Channon, David J. Dutton, John W. Flood, Philip M. Giraldi, Olena E. Heywood, Donald M. G. Sutherland. *School of Library, Archive and Information Studies:* Keshab C. Bhattacharyya, Patricia J. Layzell Ward. *Philosophy:* Louis A. Irwin. *Phonetics and Linguistics:* Juan A. Alvarez Gonzalez, Denise Deshaies-Lafontaine, Daniel J. Mkude, Lucia N. Omondi, Shulamith S. Reich, Brian W. Tiffen. [32]

M.Phil. *Anthropology:* Shelley Radice. *Egyptology:* Angela P. Thomas. *English Language and Literature:* Gillian M. Bennett. *School of Environmental Studies (Town Planning):* Jean S. Berman, Beverly L. Bernstein, Edward W. Evans, Rodney D. Evans, Foo Sueh Chuan, Michael J. Green, Anna C. Ioannou, Judith D. Livingstone, Nicholas B. K. Mansergh, John Mawson, Catherine A. Meade, Roger H. Morgan, Carol L. Murray, Stuart W. Oldham, Robert M. Parks, Marilyn J. C. Rawson, Elizabeth J. Riley, Frederick A. Robinson, Matthew M. Simpson, Ian McC. Smith, Graham J. Sully, Anne M. Williams, Mark G. Wilson, Jonathan F. Wright. *History:* Angela M. Dingle. *Italian:* §Enid T. Falaschi. *Philosophy:* John D. Reeve. *Scandinavian Studies:* Hope A. Leather. [31]

M.A. *Architecture:* Peter J. Talbot. *Area Studies:* David N. A. Braham, Linda A. Burrows, Ian R. Cardall, Susan M. Cunningham, Philip Dent, Jeremy J. J. Fox, Sharon H. Kowalska, Jenny A. L. Lo, Judith B. Lund, Jean R. McDowall, Stephen J. Miles, Thomas H. Miller, Nizamudeen Mohammed, Agnes G. Mojica-Comas, Julia R. Neath, Margaret M. Picken, Christopher H. Platt, John G. Rabbetts, Richard P. Rhodehamel, Margaret Richardson, Barbara E. Turen. *Classics:* Sara M. Bliss, *Nick Bozanic, Julia Godine, James S. Hutchinson, Linda L. Snowball. *English:* Michael N. Anthony, Nasreen Bhattacharya, Hansi J. Kingston, Susan J. E. Peppe. *German:* Helen M. Bowker, Paul A. B. Emson, *Lynda G. McAllister, *Karin L. Von Abrams. *History:* John E. Donnelly, *Denzil A. Lush, Susanne J. Sinclair. *History of European Art:* Philip L. Sohm. *Library and Information Studies:* Jean I. Bradford, Richard J. A. Finch, Elizabeth James, Anthony B. Long, Malcolm D. McKee, Ng Soot Hong, Rohani

*Awarded a mark of distinction. †Also registered at another Institution. §Also working in another Department.

Zainal Abidin, Salim-ud-Din, William M. Schupbach, Monica Yoong Sim Joo. *Linguistics:* Gaskell M. Harris. *Phonetics:* Rosie Chan Fong-Lam, Golnaz Emami-Ahari, Susanna J. Evershed, Yasuko Ogamino, Patricia D. S. Sheldon, Juan M. Sosa Hernandez. [56]

University Postgraduate Diplomas: Archive Studies 14¶; Fine Art 34; Linguistics 2; Town Planning 4.

FACULTY OF ECONOMICS

Ph.D. *Laws:* Jeffrey M. Seisler. [1]

M.Phil. *Laws:* Peter Larmour. [1]

M.Sc. *Economics:* Haralambos Golemis, *Stephen P. Hannah, Robert F. Haselden, Christopher J. Higson, Abdolkarim Khan-Akbar, Peter V. McKiernan, Priscilla A. McLeod, Geoffrey P. Mole, Arthur G. B. Morris, Stavros Papayannopoulos, Zenon Pophaides, Spyridon Seretis, John L. Watling, Hugh B. Wenban-Smith. *International Relations:* Anne K. Brewster, Alan W. Cafruny, Dean W. Collinwood, Shelley L. Floyd, *Gary N. Fradin, Gary W. Larson, Trevor StC. McMinn, Nimmi Ramanathan, Shahbaz Shahnavaz, Kripa Sridharan, Sheilagh F. Vasiliou, Robin L. K. Wood. *Planning Studies:* U. E. G. Clark, P. J. Forward, Jane A. Foulsham, Alayon A. Gomez, H. L. Miller, Alexandra Nikiforakis, Annette F. O'Neill, B. D. Phillips. [34]

FACULTY OF LAWS

Ph.D. Badrya A. M. H. Al-Awadi, Brenda N. Barrett, Christopher Harvey, Nikolas Papadakis, Alberto Szekely Sanchez. [5]

LL.M. Vassilis Alvanos-Tsapaliras, Zephyrinus C. Anyogu, Salim J. Baig, Louise E. Beck, John F. Casey, Christian P. Cerha, Jennifer Chia Jee Phun, Mervyn D. Couve, Stanley J. Davis, Barry R. Diamond, Elias Dimitriou, Jane E. Dodgson, Emily Foo, Dionysios Gangas, John N. Goodman, Raphael S. Grunfeld, John E. Hare, Jean M. Jones, David Kader, Paul S. Kent, Irving Kussin, Nigel A. D. Lambert, Mohamed Akram Bin Shair Mohamed, Arthur Moher, Dominic D. Narebor, Leland S. Ness, John P. H. Oldfield, Nicholas K. F. O'Neill, Stephen D. Owen, Alan B. S. Pierce, Kathleen D. K. Quartey, Mohamed A. Ramjohn, Keith C. Rea, Marcel Savard, Nathan Segal, Michael P. Shane, Eileen M. Spencer, Peter T. Taggart, *Tan Lee Meng, Calliopi K. Theodossiadis, Eugenios Trivizas, Lefki Tsoureli, Andreas Vassiliou, *Eileen M. Walmsley, Sylvia M. Williams, Michael J. H. Wilson, Richard H. Woods, Simon D. Wynn, Peter M. Yoell. [49]

University Postgraduate Diplomas: International Law 2; Shipping Law 17¶.

FACULTY OF SCIENCE

D.Sc. Thomas C. Griffith. [1]

Ph.D. *Anatomy and Embryology:* Brian Bracegirdle, Julian Millar, Thomas R. Price. *Animal Genetics:* Naeem Khazei. *Anthropology:* June M. M. Rollinson. *Biochemistry:* Claudio M. Cuchillo Foix, Martin J. Day,

*Awarded a mark of distinction. ¶1 candidate awarded a mark of distinction.

Ann Elvey, Raymond D. Harper, Raymond J. Ivatt, Peter R. McIntosh, James R. Potts, Trevor C. Stephens, Sofia Tsitilou, Ranmohan G. Wickremasinghe, David J. Worthington. *Botany and Microbiology:* David I. Brotherton, Gillian A. Cooper-Driver, Hilary E. Glover, Rafiqul Islam, Kevin P. Shannon, Kailash C. Srivastava, Elaine Underwood. *Chemical Engineering:* Frederick S. Ashmore. *Chemistry:* John W. Bevan, Yvonne M. Bosworth, Paul A. Boullier, Julian M. Brown, Robert W. Dennis, Olusegun Ekundayo, Graham R. Fleming, Ian M. Griffin, Christopher G. Hart, Richard E. Kimber, Peter D. Mitchell, Simon E. V. Phillips, Euan S. Reid, Rudolf A. Shipolini, James A. Stockwell, Morag M. Taylor. *School of Environmental Studies:* Adil M. Ahmad, Jay D. Farbstein, Friedrich W. Schwerdtfeger. *Geography:* Ronald A. Barnes, George E. Hollis, Stella Zuckerman. *Geology:* Robert Hall, Bashir A. Memon, Adrian C. S. Smith. *Human Genetics:* Margaret A. Mace. *Mathematics:* Peter G. Daniels, Stephen Gallivan, Richard J. Gardner, William P. Healy, Anne E. Latham. *Pharmacology:* Lawrence G. Garland, Christopher C. Jordan, David J. Sanger. *Physics and Astronomy:* John A. Adam, Peter D. Bennewith, David S. Blackwell, David J. Carnochan, Abdel M. A. R. Ibrahim, Barry Kirkham, Yacoub Y. H. Makhdis, Lance S. Marvin, Alan G. Michette, Graham J. Sage, Muhammad Shafiq, Nigel P. Simons, Stephen M. Trujillo. *Physiology:* David G. Allen, Naji S. Al-Zaid, Valerie A. Dickinson, Keith E. Tremain. *Psychology:* Penelope M. de Z. Cooke, Susan H. A. Henley, Barbara T. Kugler, Gloria K. Laycock, John A. Sloboda, Richard G. Totman. *Statistics and Computer Science:* Suheil F. Aranki, Barry Leventhal, Anthony O'Hagan, Geoffrey K. Robinson, David Warren. [86]

M.Phil. *Botany and Microbiology:* Lorenz Thaw. *Geography:* Daya S. Gunatillake. *Geology:* Esref Aydin. [3]

M.Sc. *Architecture:* Kenneth W. Edwards, Nashat B. Kotani, Charles R. Rydberg, Clive A. Sayer, Robert S. Shaw, Roy A. Wood. *Biochemistry:* Niran Al-Rashid, Robert R. H. Anholt, Brian W. Curlewis, Christopher B. Taylor, John B. Taylor. *Conservation:* Packeer R. M. Basheer, Anne B. Brett, *David Brewster, Martin S. Brocklehurst, James Cowie, Robin A. Jarman, Simon R. Pepper, Kevin A. Roberts. *Educational Psychology:* Barbara M. G. Corley, John G. V. Davies, Maria J. T. Evans, Stuart A. Forbes, Helen E. Gillings, Shirley J. Harries, Barnaby D. M. King, Edith A. Roberts, Richard T. Sattin. *Hydrogeology:* Mohamad A. Abu-Butain, Ahmad M. E. Al-Assfour, Abdul A. M. Al-Dakheel, Terence W. Gill, Graham L. Hubert, Marcelino Losilla Peñón, Brian L. Morris, Saad Ibrahim Yehya, Salam M. Sid Ahmed, Andrew W. Stone, Michael N. White. *Information Science:* Colin V. Clark, Kyung-Y. Park. *Marine Earth Science:* Seid N. Alavi, Colin Hazlehurst, Brian G. Smith. *Micropalaeontology:* Timothy J. Burnhill, Jennifer M. Croad, Guity Delkhosh Djahromy, *Paul G. Edwards, Minoo Hojjatzadem, David J. Jutson, George A. Nellis, Christopher Padley, Gillian B. Robertson, David A. Salmon, Ian Walker. *Neurological Science:* Kristjan R. Jessen, Elizabeth M. Somerville. *Physiology:* Jonathan F. Ashmore, Peter Furness, Derek E. Knight, Giovanni E.

*Awarded a mark of distinction.

Mann. *Statistics:* Kevin J. Gough, Mohamed E. Mamon. *Vertebrate Palaeontology:* Augustine Baddokwaya, Olivier C. Rieppel. [65]

University Postgraduate Diplomas: Material Culture 2; Physical Anthropology 1; Social Anthropology 7.

FACULTY OF ENGINEERING

Ph.D. *Chemical:* Maan R. T. Al-Dibouni, Robert J. Best, Barry C. I. Buckland, Philip Dang Ngoc Duyen, Charles X. R. Yacono. *Civil and Municipal:* David MacL. Branston, John E. Butler, George D. Hobbs, Prem K. Jain, Phillip Rice, Peter R. Sparks, Philip R. S. Speare, Neil W. Taylor. *Electronic and Electrical:* Kahtan T. Al-Kibasi, Veraje Andjargholie, Robin E. Bailey, John H. Causebrook, Fritz R. Gfeller, Ian S. Groves, Martin D. Motz, Richard A. Startin, Teh Ghee Ann, Zellman Warhaft, Hemantha K. Wickramasinghe. *Mechanical:* Zakaria S. Al-Soufi, Michael T. Hoath, Paul V. Murphy, Sieh Kok Swee. [28]

M.Phil. *Chemical:* Ana C. A. Lages. *Electronic and Electrical:* Daniel Garate Malarin. [2]

M.Sc. *Biochemical Engineering:* George A. Constanti, Allan P. Davies, Suleyman M. Ozbudun. *Ergonomics:* Philip C. Ashby, David H. O'Neill, Michael Tracey, Gregory R. Watts. *Microwaves and Quantum Electronics:* Fouzi Benkhadra, Sarjit S. Bharj, Roger P. Claydon, Sutinder S. Dhanjal, Kenneth J. Edney, Youssef Koukhab, Nicholaos Mavrokoukoulakis, Bryan A. Mordecai, Djamal Ould-Ramoul, Hung K. Tang. *Ocean Engineering* (*Mechanical Engineering*)*:* Heath Bradshaw, Anthony J. Mace, Birger J. Natvig, Stuart R. Rawson-Cain, Peter T. N. Reeve, Malcolm C. Seeley, Mark C. A. Simmonds, Martin R. Tucker, Kare Varvin. *Ocean Engineering* (*Naval Architecture*)*:* Syed Z. Ali, Wynford B. Davies, *John F. P. Eddison, *Robert C. Gregory, Jonathan F. Knight, Fernando F. Machado Veloso Gomez, Constantine Markopouliotis, Fawzy H. Metwally, Masood Murtuza, *Denis N. Pattison, Mohan Raman Magdy H. Shehata, Roger Swann, Louis A. Van Dyk, Malcolm P. Wall. *Photogrammetry:* Stephen W. H. Fullom. *Surveying:* Robert A. Perry, Christopher R. Rawlinson. [44]

FACULTY OF MEDICINE

Ph.D. *Zoology and Comparative Anatomy:* George Janossy. [1]

*Awarded a mark of distinction.

APPENDIX X

COLLEGE DIPLOMA AND CERTIFICATE AWARDS

1 OCTOBER 1974—30 SEPTEMBER 1975

FACULTY OF ARTS

Certificate in Archive Administration: Francis Omotayo Babalola; bin Mohd Hassan. [2]

Diploma in Film Studies: Stuart Wayne Clarkson; Teri Ellen Schwartz. [2]

Diploma in Library and Information Studies: Nigel Malcolm Warren Taylor Allan; Lena Margareta Andrew; *Lynne Janie Brindley; Paul Vernon Bunn; Ch'ng Saw Keok; *Dorothy Joan Clayton; Brian Collinge; Kirsten Germaine Evans; John Kerwin Fisher; Gary Eugene Gorman; Peggy Anne Goss; Jennifer Mary Graham; Stephen George Haw; Peter John Heafield; Graham William Holliday; Gillian Custance Howarth; Judith Clare Huse; Graham Philip Jefcoate; Malcolm Johnson; Pauline Jones; Elizabeth Jane Kent; Catherine Lois Jean Keyzer; Edmund Mervyn Bellamy King; Elizabeth Anna Kornacka; Duncan John McKay; David McLachlan; Damaris John Mariki; Richard Bruce Mellowes; Charles Hugh Mountford; William Evans Muter; Yvonne Myra Paul; Timothy Hugh Pollington Penton; Clive Pickering; Lindsay Dorothy Pickering; John Roger Pinfold; Eileen Hope Robbins; Barbara Margaret Sherrard-Smith; Robert Francis Smeaton; Anthea Mary Stanley; *Michael James Taylor; Ronald John Warwick; *Graham Hedley Whitaker; *Sheila Margaret Mackenzie Wickham; Ruth Conway Williams. [44]

Certificate of Proficiency in Phonetics: Sophia Augustina Adjaye; Caroline Mary Antonia Badger; Ingrid Maria Björk; Edna Ruth Challinor; Rosemary Diane Davies; Vera Georgieva Despotova; Lakshmi Chandrani De Zoysa Abeysiriwardena; Pamela Anne Dobson; Sarah Anne Farnan; José Antonio Fernández; Kinuyo Fujiwara; Cecilia Margaret Gilligan; Hossein Gorji; Yvonne Lilian Florence Hawkins; Linda Dale Hayes; Sheila Hosangady; Janis Penelope Howe; Maria Del Carmen Jurado; John James Michael Lee; Bak Yam Lem; Ian Paterson Leslie; Frances Alison Linley; Sandra Mary Mather; Wolfgang Michael Meissner; Jean Pierre Montaux; Christine Jill Morgan; Dorothy Mary Neate; Sigrid Obersat; Jacek Henryk Opienski; Michael Douglas Osborn; Judy Ann Peacock; Rashida Punja; Nadine Racadot; Jürgen Ribbe; Janet Zillah Roberton; Pamela Joan Rubery; Rosa Maria Sevillano; Shirley Simmonds; Shizue Sunaga; Masayuki Tajima; Lesley Joy Talbot; Yuvadee Trivitayakun; Vicki Jane Twyman; Peter Charles Webber; Jane Patricia Whitwell; Patricia Elizabeth Wright. [46]

Diploma in Urban Studies (Developing Countries): Adrienne Agpalza; Revathy Balasingam; Maria Isabel Cisneros Quiroga; Naomi Guenett Clapham; Govind Moghaji Gare; Vaidyanathan Ramakrishna Iyer; Vivek Shreekrshna Khadpekar; Shunmughom Krishna Pillai; Nanjappa Narayana Sastry; Kamal Niroumand Rahimi; Natividad Paguia-Reyes; Maria Eugenia Penida Velaz-

*Awarded with Distinction.

quez; Anselmo Rosa Rivera; Chandan Vishanji Savla; Margaret Thomas; Gore Lal Prasad Yadava. [16]

FACULTY OF SCIENCE

Diploma in Conservation: Packeer Rawther Mohamed Basheer; Anne Bernadette Brett; *David Brewster; James Cowie; Robin Andrew Jarman; Simon Richard Pepper; Kevin Alan Roberts. [7]

Diploma in Hydrogeology: Mohamed Abdallah Abu-Butain; Ahmad Mahmoud Essa Al-Assfour; Abdul Aziz Mohammed Al-Dakheel; Terence William Gill; Graham Ladislas Hubert; Marcelino Losilla Peñón; Brian Leonard Morris; Richard Newham Reed; Salah Mohammed Sid Ahmed; Andrew William Stone; Michael Norman White. [11]

Diploma in Micropalaeontology: Timothy Joseph Burnhill; Jennifer Mary Croad; Kalyan Kumar Ghosh; Minoo Hojjatzadeh; David James Jutson; Kyriacos Kyriacou; George Alfred Nellis; Christopher Padley. [8]

Diploma in Space Science: Maurizio Bonafede; Christopher Roy Davies. [2]

FACULTY OF ENGINEERING

Diploma in Biochemical Engineering: George Andreas Constanti; Allan Phillip Davies; Fernando Garcia Hernandez; Alberto Jorge Limón-Lason Y Roldán; Suleyman Nihat Ozbudun. [5]

Diploma in Chemical Engineering: Ieuan John Edwards; *Geoffrey Robert King; Peng Wah Oon; Masood Parvez Subzwari. [4]

Diploma in Microwave Engineering: Sarjit Singh Pyarr Singh Attar Singh Bharaj; Roger Paul Claydon; Kersasp Rustam Dadachanji; Sutinder Singh Dhanjal; Constantine Gavrilidis; Youssef Koukhab; Nicholaos Mavrokoukoulakis; Bryan Anthony Mordecai; Djamal Ould-Ramoul; Baldev Krishan Shahi; Hung Kei Tang. [11]

Diploma in Ocean Engineering: Syed Zafar Ali; Heath Bradshaw; Wynford Bevan Davies; John Frank Pembridge Eddison; Robert Clive Gregory; Jonathan Furnival Knight; Anthony John Mace; Fernando Francisco Machado Veloso Gomes; Constantine Markopouliotis; Fawzy Hassan Metwally; Masood Murtuza; Birger Johannes Natvig; Denis Nigel Pattison; Mohan Raman; Stuart Richard Rawson-Cain; Peter Thomas Neil Reeve; Malcolm Carl Seeley; Magdy Hassan Shehata; Mark Cyril Adrian Simmonds; Roger Swann; Martin Robert Tucker; Louis August Van Dyk; Kåre Varvin; Malcolm Philip Wall. [24]

Diploma in Photogrammetry: Richard Anthony Ellis; Stephen Oates. [2]

Diploma in Surveying: Sami Hamid Al-Ali; *Laurence Cheney; †Martins Wambag' Amatwi Luther Chodota; Sherlock Hugh Sylvanus Delph; Bryan Meredith Edwards; Patrick Harrison; Stephen Alexander Kyle; *Roy Stanley Sharp. [8]

FACULTY OF ENVIRONMENTAL STUDIES

Diploma in Architecture: David Hugh Anderson; Richard Atwell; ‡Alan Jay Berman; George Benjiman Bryant; Christopher Richard Capewell; Jonathan

*Awarded with Distinction. †Awarded with Merit. ‡Awarded retrospectively to 1973.

Charles Coombs; Stephen John Coultas; Robert Arthur Crosby; Robert William Dalziel; Raymond William Eagle; ‡Nigel Lee Evans; Neil Fanning; Peter Allan Harding; Sally Ann Heptinstall; Julian Philip King; Rainer Koch; Delilah Anne Caroline Lwin; Clive Robert Naylor; Marion Elizabeth Ruth Roberts; Andrew Barry Shaw; Douglas Rolf Alan Smith; Andrew Leonard Stone; Margot Jane Tanfield; Andrew Charles Thompson; Maurice John Ward; Wong Kah Ho; Elaine Ann Wren. [27]

Diploma in Development Planning: Eniola Oloruntobi Adeniyi; Jacqueline Albarran De Los Reyes; Jose Antonio Aldrete Haas; Getachew Alemayehu; Ayad Ibrahim Alsafi; Mery Luisa Alvarez; Mohammad Zaher Aman; Justina Ruby Anipa; Josie Anthony Beckley; Oriza Chollett Borges; Robert Arthur Crosby; Raul Iberico Yuly; Gul Kayaman:Z; Chhun Keo; Naeemullah Khan Khan; Ricardo Ernesto Levy; Eckert Dolfin Lewis; Fantaye Mersha; Fernando Ortiz Monasterio Prieto; Manfred Sundermann; Yim Tek; Deepak Jagannath Thakur; Arturo Joaquin Villaamil Irastorza; Nicholas Heron Wates; Kamal Hassein Yagoub; Mehmet Levent Zorluoglu. [26]

Certificate in Urban Development Planning: Talib Al-Talib; Alex Avulete-Tamakloe; Weng Foo Chung; Francisco Covarrubias; Deryck William Cutter; Jorge Miguel Diez De Bonilla; Robert McDonald Drayton; Ibrahim Mohamed Hadi; Samuel Dwelu Hill; Abdul Waheed Kazi; Abraham Penney Laryea; Mohamed El-Hassan Ibrahim Mahgoub; Mamoun El Fadil Mohamed; Jan Mohammed; Mohammad Noerzeiny; Sri Oeripto; François Pfister; Mohammed Junaideen Abdul Rahim; Jorge Voorduin. [19]

‡Awarded retrospectively to 1973.

SCHOLARSHIPS, STUDENTSHIPS, AND PRIZES
COLLEGE AND UNIVERSITY AWARDS

COLLEGE AWARDS

Barlow Prize (*Elect. Engineering*)—P. A. Blakey, S. R. Judah, S. A. Kingsley, prize equally divided.
Herbert Batsford Prize (*Architecture*)—Sarah Murray-Smith.
Leonard Bayliss Memorial Prize (*Physiology*)—M. G. Hibberd.
Thomas Witherden Batt Scholarships (*Science*)—Lois Steenman-Clark, C. G. Dew, Katherine M. Homewood, M. J. O'Shea, M. J. Oates.
Bayliss-Starling Memorial Scholarship (*Physiology*)—R. Miles.
Francis Perch Bedford Prize (*Zoology*)—B. Levey, A. S. Luder, prize equally divided.
Benington Memorial Studentship (*Anthropometry and Craniology*)—M. C. Donmall.
Bonney Prize (*Geology*)—M. E. Chambers.
Boise Scholarships (*Fine Art*)—N. Volley, Lynda Willson, H. Cave, E. Winters, C. Farr, I. Friend, T. Stevenson, A. Hill.
British Association Exhibition (*Science*)—C. J. Thompson.
R. E. Bradbury Memorial Prize (*Anthropology*)—D. R. Rudling.
Brodrick-Parry Prize (*Geography*)—N. G. Pascoe.
Rodney Burn Prize (*Fine Art*)—H. Brown.
Chadwick Medal and Prize (*Civil Engineering*)—I. W. H. Smith.
Churchill-Jenkinson Prize (*Archive Studies*)—S. G. H. Freeth.
Antonio Cippico Medal and Prize (*Italian*)—Lorna Russell.
Lilian Clarke Prize (*Botany*)—Pauline Trotter.
Clinton Prize (*Elect. Engineering*)—M. R. Sach.
Cowley Prizes (*Library and Information Studies*)—Elizabeth James, Soot H. Ng.
Dawes Hicks Postgraduate Scholarships in Philosophy—P. K. F. Davies, J. A. F. Tokeley-Parry.
Derby Scholarship (*Zoology*)—Sue E. Martin.
Donaldson Medal (*Architecture*)—Christina A. Pocklington.
Dunn and Wilson Award (*Library and Information Studies*)—K. Bhattacharyya, P. Layzell-Ward, award equally divided.
Early English Text Society's Prize—Katherine M. Taylor.
Elliot-Blake Studentships (*Biochemistry and Botany and Microbiology*)—J. B. Taylor, J. H. Dodds.
Environmental Design Prize—G. A. Patten.
Esso Chemical Travelling Scholarship (*Chemical Engineering*)—I. H. Williams.
Sir Banister Fletcher Prize and Medal (*Architecture*)—Margot J. Tanfield.
Flinders Petrie Scholarship in Egyptian Archaeology—K. A. Eisa.
Stephen Glanville Memorial Scholarships (*Egyptology*)—Rosalind M. Hall, C. Hope.
Edith Goodyear Prize (*Geology*)—Sarah Shearme.
Eva Grunwald Memorial Prize (*French*)—Yvonne Brayshawe.
Paul Haas Studentship (*Biochemistry*)—J. B. Taylor.

Violet Hall Prize (*French*)—Shirley Simmonds, Vicki Wilson, prize equally divided.
Hart Prizes (*Photogrammetry and Surveying*)—L. Cheney.
Archibald P. Head Memorial Medal and Prize (*Mechanical Engineering*)—W. J. Van Griethuysen.
Heimann Medal (*German*)—Hannelore B. Ollesch.
Elsie Hitchcock Prize (*English*)—Helen Smith.
John Oliver Hobbes Memorial Scholarship in Modern English Literature—D. Aberbach.
Hollier Scholarships in Greek—Georgia Karamanos, N. Bozanic.
Hollier Scholarship in Hebrew—S. A. Josovic.
Hotine Exhibition (*Photogrammetry and Surveying*)—L. Cheney.
R. B. Hounsfield Scholarship in Traffic Engineering—S. P. Satterthwaite.
R. B. Hounsfield Prize in Town Planning and Civic Engineering—W. Evans, Marilyn J. C. Rawson, prize equally divided.
Charles Heath Clark Awards—R. Taylor, Penelope Green, Frances Coleman.
Huntington Research Centre Prize (*Histology Part I—Medical Sciences*)—Joscelin M. Jones.
Institution of Civil Engineers' Prize—Wee Hian Wen.
Institution of Electrical Engineers' Prize—A. K. Booer.
Institution of Mechanical Engineers' Prize—J. R. Hood.
Jackson Lewis Scholarships—E. Gutwirth, P. K. Christian, Pamela Cook.
Sir Hilary Jenkinson Scholarship in Archive Studies—P. E. Bloomfield.
Ker Memorial Prize (*English*)—Lucy Whitman.
Kitson Prize (*Chemical Engineering*)—B. Jazayeri.
Dr R. Kohn Prize (*Physiology Part I—Medical Sciences*)—P. J. Luthert.
Library and Information Studies Exhibitions—Frances Harris, Gillian C. Makin.
Lloyd Scholarship in Modern Greek—Kathleen McNamee.
Sir John MacAlister Medal (*Library and Information Studies*)—Lynne J. Brindley.
Betty Malcolm Scholarship (*Fine Art*)—Pamela Marre.
Malden Scholarship (*Greek*)—G. C. Woodbridge.
Sir William Meyer Prize (*Geography*)—J. T. Hollinger.
Sir William Meyer Travelling Studentships (*History*)—N. J. D. Price, Helena M. Kettleborough, M. H. Nalewajko, P. N. Sheerin, R. A. Cassell, Ruth M. Mitchell, R. Price, J. M. Wybrew.
Sir William Meyer Essay Prize (*Geography*)—Rhona V. Sheppard, P. Knott, prize equally divided.
Merck Sharp and Dohme Ltd Prize (*Biochemistry Part I—Medical Sciences*)—Dagmar E. Long.
Merck Sharp and Dohme Ltd Prize (*Genetics Part II—Medical Sciences*)—R. E. Ferner.
John Stuart Mill Scholarship in Philosophy of Mind and Logic—P. K. F. Davies.
Momber Scholarship in Geology—P. Bishop.
Momber Scholarship in Physics—R. H. Bell.
Momber Scholarship in Statistics—Elisabeth M. Rumbold.
Rosa Morison Scholarship in English Language and Literature—Caroline N. Dakers.
Morley Medal (*Modern English Literature*)—R. Brown.
Morris Prize (*Geology*)—N. Thewsey.
Douglas Murray Scholarship in Egyptology—D. G. Jeffreys.
Catherine Maude Pearce Scholarship for senior women students—Carolyn R. Knight.

Perren Studentship (*Astronomy*)—C. E. Chapman.
Platt Prizes (*Greek*)—(1) W. D. Farley, (2) P. L. Hodges.
Postgate Prize (*Classical Philology*)—Anne Harding.
Ramsay Memorial Medal (*Chemistry*)—F. D. Rumjanek.
Graham Robertson Travelling Scholarships (*Fine Art*)—J. Brooke, D. J. Viner, G. Alexander, Glenys Johnson.
Hester Rothschild Scholarship in Hebrew—S. A. Josovic.
L. M. Rothschild Scholarship in French—Lynda Osborn.
Rowney Bursary—Paula Cleesby.
Slade Bursaries—C. Welsby, A. Andrews.
Slade Scholarships—Anne Ross.
Hugh Smith Memorial Prize (*Scandinavian Studies*)—Caroline E. Adnitt.
Smith Kline and French Laboratories Ltd Prize (*Medical Sciences*)—A. G. W. Norden.
Stanbury Scholarship in Stage Design—Pamela Marre.
Stevenson Prize (*Applied Mathematics*)—M. Allen.
Sir Andrew Taylor Prize in Architecture—Elaine Wren.
Troughton Scholarship—C. A. Hodgson.
Tuffnell Scholarships (*Chemistry*)—R. Gosling, P. C. Turtle.
L. F. Vernon-Harcourt Prize (*Civil Engineering*)—M. R. McLean.
Ellen Watson Memorial Scholarship in Applied Mathematics—D. F. Almeida.
Dr T. D. Whittet Prize (*Pharmacology Part II—Medical Sciences*)—A. D. Ramsey.

FACULTY MEDALS AND PRIZES

Science Medal and Prize—R. Gosling.
Engineering: Goldsmid Medal and Prize—W. J. Van Griethuysen.
Medical Sciences Medal and Prize—A. S. Luder.
Environmental Studies Medal and Prize—N. Lucey.

SESSIONAL PRIZES

Anthropology: Rosa Morison Prize—Ayse N. Sirman.
English: Campbell Clarke Scholarships—(1) S. D. Bamlett, S. P. Ellis, Rosemary D. Davies, prize equally divided. (2) Jane R. Spiro, Denise Thorn, Valerie A. P. Traylen, prize equally divided.
West Scholarship—Valerie Neale, Michele Raithby, Catherine Tennant, Hermione L. Whitman, prize equally divided.
French: Rosa Morison Prizes—(1) Kathryn Jones, (2) D. Weymouth, (3) Gillian Horrocks.
Geography: College Prize—Gillian A. Russell. *Maconochie Prize*—Diana M. Liverman. *1903 Prize*—W. S. Eyre, Diane Lewis, prize equally divided.
German: Robertson Prize—Katharyn M. MacDonald. *Willoughby Prize*—R. M. Storey.
Greek and Latin: Key Prize—Clare J. Thomson. *Long Prize*—Margaret W. Hooker.
Italian: Sir Anthony Panizzi Prize—Hebe S. A. Alexander, Janet M. Cottell, prize equally divided.
Philosophy: Dawes Hicks Scholarships—(1) J. L. Slade. (2) Melanie J. Johnson, C. R. Nicholas, prize equally divided.

Scandinavian Studies: Rosa Morison Prize—Anne-Britt R. Dullforce, Kirsten S. Williams, prize equally divided.

Architecture: Bartlett Prizes—(1) P. J. Habgood. (2) T. Bridge.

Astronomy: Huggins Prize—R. J. Blissett.

Biochemistry: Jack Drummond Prize—N. D. Morgan. *Plimmer Prize*—L. R. V. Panniers.

Botany: Darwin Prize—F. W. Huxtable. *Robert Hooke Prize*—Susan P. Ireland.

Chemistry: C. K. Ingold Prizes—(1) I. P. Rothwell. (2) Marion A. Sumner. (3) M. R. Draper, Katherine S. Older, prize equally divided.

Geology: Chubb Prize—Sarah J. Glendining.

Mathematics: Filon Prize—S. J. Avis. *Hill Prize*—S. J. Avis. *Jeffery Prize*—Susan J. Dilnot.

Physics: William Bragg Prize—C. Bachas. *Oliver Lodge Prize*—R. P. Harkness, S. Fedida, prize equally divided. *Wood Prize*—K. S. Lines.

Physiology: Foster Prize—Alyson A. Bowhay. *Sanderson Prize*—M. R. Jarmulowicz, Maureen Wycherley, prize equally divided.

Psychology: McDougall Prize—G. J. Hole. *Spearman Prize*—Susan M. Woodward.

Statistics: Egon Pearson Prize—Norma C. Ibrahim. *Karl Pearson Prize*—W. Elmore.

Zoology—(1) C. R. Wade. (2) R. J. Post.

Chemical Engineering: Goldsmid Prizes—(1) P. D. Martin. (2) J. M. Fleming.

Civil and Municipal Engineering: Goldsmid Prizes—(1) P. Georgiou. (2) I. M. Sowden.

Electronic and Electrical Engineering: Goldsmid Prizes—(1) R. M. Tester. (2) Lee S. Sai Man.

Mechanical Engineering: Goldsmid Prizes—(1) Chan Seng Onn. (2) C. Cotsambopoulos.

Medical Courses, Part I Examination: I.C.I. Prize in Anatomy—R. Lodwick. *Drummond Prize in Biochemistry*—Susannah V. Howard. *I.C.I. Prize in Physiology*—A. G. W. Norden. *Glaxo Prize for Best Aggregate Performance*—Susannah V. Howard.

Medical Courses, Part II Examination: Drummond Prize in Biochemistry—J. K. Ross. *Cluff Prize in Physiology*—P. E. Silkoff. *Wellcome Prize in Human Biology*—M. G. Clore. *Cuxson Gerrard Prize in Pharmacology*—C. J. Bignall. *Elga Prize in General Pathology*—M. G. Mead. *Suckling Prize in Neurosciences and Behavioural Sciences*—Virginia J. Yates. *Wyeth Prize for Best Aggregate Performance*—M. G. Mead.

Dental Courses, 2nd Examination in Dental Surgery: Anatomy Prize—A. E. Brooke. *Physiology Prize*—N. R. Hardy.

UNIVERSITY POSTGRADUATE STUDENTSHIPS

Ancient History: Alexandrina J. L. Smith (William Lincoln Shelley Studentship—2nd year). *Botany and Microbiology:* Cheryl E. J. Wallis (D. T. Gwynne-Vaughan Studentship—2nd year). *Civil Engineering:* C. P. Ellinas (3rd year), L. C. F. Lam Tin Cheung (2nd year). *French:* Catherine A. Baudino (2nd year), Francis A. Penketh. *Hebrew:* Risa Domb. *History:* Gillian C. Wigglesworth (2nd year). *Laws:* Anna Brethima (Edmund Davis Scholarship). *Medicine:* P. J. Luthert (Ken Clifford Entrance Scholarship). *Old Icelandic:* Elizabeth J. Whitelaw. *Philosophy:* Antonia Phillips. *Psychology:* G. Mathias (Berlin Exchange Studentship). *Spanish:* Evelyn Fishburn. *Zoology:* C. J. Duffin.

APPENDIX XII

BENEFACTIONS, DONATIONS, RESEARCH GRANTS AND CONTRACTS

The College Committee makes grateful acknowledgment of the following:

Allen and Hanburys Research Limited

£520, £500, and £129.90 for the Department of Pharmacology in support of research in drug allergy.

American Telephone and Telegraph Company, U.S.A.

£1,900 for a study in the School of Environmental Studies of users' opinions and reactions to intercity visual conference services.

The Anstruther 1966 Canada Trust

£1,500 for the Library in support of a scheme to sort and index the Chadwick papers.

The Arthritis and Rheumatism Council

£3,974 for research in the Department of Physiology on naturally recurring anti-inflammatory agents.

Asthma Research Council

£3,716 for the Department of Pharmacology for the measurement of cell-bound anti-bodies in asthma and allergy.

Sir Vahé Bairamian

A gift of £105 in memory of Professor J. Arthur Platt, Professor of Greek, 1894–1925, for the promotion of Greek studies. The gift is being used for the purchase of books for the Library.

Emeritus Professor H. Hale Bellot (the late)

A further sum of £35, under the bequest of the late Professor Bellot, which is being used for the benefit of the American History library and to assist graduate students and younger members of the staff of the History Department to pursue research in the United States or in any other part of the western hemisphere.

Boehringer Mannheim GmbH

£1,800 and £950 for the Department of Pharmacology in support of research in drug allergy.

C. H. Boehringer Sohn

£2,808 for the Department of Pharmacology in support of research in drug allergy.

British Academy

(1) £4,705 for 1974–75 towards the cost of the production of a definitive edition of the works of Jeremy Bentham.

(2) £3,475 for work in the Department of Greek on unpublished oxyrhynchus papyri.

British Antarctic Survey

£8,000 for the Department of Photogrammetry and Surveying for a survey network analysis.

British Epilepsy Association

£125 for the Department of Physiology for a computer analysis of the Electroencephalogram for the monitoring of drug dosage.

British Heart Foundation

£875 for a study in the Department of Biophysics of calcium and organic anion movements in heart muscle cells.

The British Library

(1) £3,850 for the School of Library, Archive and Information Studies for exploratory modelling for the U.K. Library/Information System.

(2) £1,250 for the School of Library, Archive and Information Studies for a research forum in information science.

(3) £5,300 and £4,675 for the Department of Statistics and Computer Science for the provision and evaluation of access to MEDLINE on the ARPA Network.

British Railways Board

£450 for the Department of Electronic and Electrical Engineering for a study of a passive microwave transponder.

British Society of Research on Ageing

£325 for the Department of Anatomy and Embryology in support of experimental gerontology.

British Universities Film Council Ltd

£3,621 for the Slade School of Fine Art in support of the Slade Film History Register.

Mrs Lois Butler Charitable Trust

£2,300 for the School of Environmental Studies for the teaching of environmental subjects.

Calouste Gulbenkian Foundation, Lisbon

£93 for the Department of English Language and Literature in support of a Survey of English Usage.

Cancer Research Campaign

(1) £6,022, £472 and £90 for research in the Department of Anatomy and Embryology on the *in vitro* determination and differentiation of SIKR.

(2) £13,569 and £1,563 for research in the Department of Biochemistry on the effects of carcinogens on membrane-polysome interactions.

(3) £3,333 and £839 for research in the Department of Botany and Microbiology on nucleic acid metabolism in mitochondria.

(4) £3,322, £778 and £184 for research in the Department of Human Genetics and Biometry on the effect of chemicals on mitotic cycle times and rates of cell proliferation.

(5) £166 for research in the Department of Pharmacology on tumour immunology.

Centre for Environmental Studies

(1) £12,733 for a study in the School of Environmental Studies of the planning and absorption of newcomers in an Indian city.

(2) £5,315 for the School of Environmental Studies for a study of the inter-war suburbs.

Civil Service Department

£37,000 for the School of Environmental Studies for a study of methods for planning telecommunications facilities.

Construction Equipment Limited

£1,000 under a seven-year covenant to the Library in support of the calendaring and listing of the Gaster Archive.

Cystic Fibrosis Research Trust

£2,266 and £426.70 for the Department of Physiology in support of an investigation of cystic fibrosis using model systems in animals.

Department of Communications, Ontario

$2,500 for a study in the School of Environmental Studies of the effects of new communications services on behaviour of people.

Department of Education and Science

(1) £6,391 and £330 for the School of Environmental Studies for a study of the shared use of polytechnic facilities.

(2) £1,502 for the School of Environmental Studies for a documentation study of the use of space.

Department of the Environment

(1) £5,736 for the Department of Civil and Municipal Engineering for small scale stiffened panel (araldite) tests.

(2) £4,992 for the Department of Civil and Municipal Engineering for small scale stiffened panel (steel) tests.

(3) £8,256 for research in the Department of Electronic and Electrical Engineering on two frequency radar for vehicle headway measurements.

(4) £17,747 for the School of Environmental Studies for a study of construction in economic models.

(5) £4,099 for the School of Environmental Studies for the preparation of telecommunications research reviews.

(6) £3,500 for the Department of Political Economy for an investigation into the socio-economic viability of rural settlements.

Department of the Environment (Transport and Road Research Laboratory)

(1) £19,615 for the Department of Civil and Municipal Engineering for a study of traffic accidents and traffic volumes.

(2) £18,407 for the Department of Civil and Municipal Engineering for a study of the effect of ageing on driver awareness of traffic hazards.

(3) £15,525 for the Department of Civil and Municipal Engineering for a study of the movement of cars and their occupants in accidents.

(4) £5,739 for a study in the Department of Civil and Municipal Engineering of the loss of control and the relation between accident rates and characteristics of cars.

(5) £4,250 for a study in the Department of Civil and Municipal Engineering of the effect of knee impact area design on road accident injuries.

(6) £5,354, £3,280 and £951 for the Department of Statistics and Computer Science for computer programmes for highway design.

Department of Health and Social Security

(1) £37,600 for the Department of Mechanical Engineering for the development of an above knee prosthesis.

(2) £5,319 for the Department of Mechanical Engineering for the development of a prototype hydraulically-powered arm.

Department of Trade and Industry

(1) £11,748 for research in the Department of Mechanical Engineering on yaw and roll control of surface ships.

(2) £8,500 for the Department of Statistics and Computer Science for ARPA Network link to Norway.

Department of Trade and Industry (Computer Aided Design Centre)

Loan to the Department of Statistics and Computer Science, for research connected with ARPA project, of a PDP-9 Computer (valued at £12,000), together with a grant of £1,500 per annum towards its maintenance.

Dista Products Limited

£1,000 for the Department of Pharmacology in support of pharmacokinetic studies of D-Penicillamine.

The Dunn and Wilson Group Limited

£25 per annum to enable the value of the Dunn and Wilson Award in Library and Information Studies to be increased from £25 to £50 per annum.

European Space Research Organisation

£4,500 for the Department of Physics and Astronomy for the expenses of collaboration in EXOSAT experiment development programme.

Daryll Forde Memorial Fund, Subscribers to

Donations totalling £1,000 to initiate the Daryll Forde Memorial Prize in memory of the late Professor Daryll Forde, Professor of Anthropology at the College, 1945–69. The Prize, of the value of £85 per annum, may be awarded to the student who achieves the best final results in the B.Sc. Honours Anthropology examinations.

Foundations' Fund for Research in Psychiatry

£12,485 for a research fellowship in the Department of Anatomy and Embryology.

The Grocers' Company

£800 over two years to enable the value of the Stephen Glanville Memorial Scholarship in Egyptology to be increased from £400 to £800 per session.

Mr H. Grunwald

£5 per annum over three years to enable the value of the Eva Grunwald Memorial Prize in French to be increased from £15 to £20 per session.

Home Office

£132,000 for a study in the Department of Psychology of the industrial rehabilitation of offenders.

Professor R. G. Hopkinson and Professor N. F. Watson

Professor R. G. Hopkinson received as a Fellow of the Illuminating Engineering Society of the U.S.A., an international lighting award for the design which he and Professor N. F. Watson had done for the new Stock Exchange Market Hall, acting as consultants to the Stock Exchange Committee. The award took the form of a $1,000 scholarship to be presented to the School selected by the award winner. Professors Hopkinson and Watson decided to allocate the prize to the College to enable an annual award to be made to a student who showed 'meritorious understanding' of the integration of engineering and architectural principles in building design.

Imperial Chemical Industries Limited

£500 for a research studentship in the Department of Electronic and Electrical Engineering.

Trustees of the James Joyce Estate

£500 for the Library in support of the James Joyce Centre.

The Leverhulme Trust Fund

(1) £2,640 and £341 for research in the Department of Botany and Microbiology on fungal infection of jute.

(2) £13,300 for studies in the School of Environmental Studies of land policies for planning in Britain.

(3) £3,253 and £153 for the School of Environmental Studies for an evaluation of complex buildings with special reference to hospitals.

(4) £2,800 for the Slade School of Fine Art for the indexing of the Townsend Journals.

(5) £450 for the Slade School of Fine Art for expenses in connection with a visit to film conference in Tokyo.

London Transport Executive

£4,800 for the Department of Psychology for a study of the recruitment and training of underground guards.

Lorch Foundation

£25 per annum for seven years for the Faculty of Medical Sciences in support of a Sessional Prize (Part II—General Pathology Prize).

Joseph Lucas (Industries) Limited

£700 for the Department of Mechanical Engineering in support of a lectureship in biomedical engineering.

Medical Research Council

(1) £24,801 for a study in the Department of Anatomy and Embryology of synaptic organisation in sensory pathways of mammals and birds.

(2) £10,887 for research in the Department of Anatomy and Embryology on immunohistochemistry of synapses in the mammalian central nervous system.

(3) £7,922 for research in the Department of Anatomy and Embryology on the structure and innervation of intestinal smooth muscle in conditions of hypertrophy, regeneration and denervation.

(4) £2,820 for research in the Department of Biochemistry on hormone regulation of enzymes of glyceride synthesis in adipose tissues and liver.

(5) £10,205 for a study in the Department of Biophysics of signal amplification in the outer plexiform layer of the retina and its relation to the b-wave.

(6) £300 and £238 for research in the Department of Biophysics on metabolic control by permeability and by enzyme action.

(7) £293 for research in the Department of Biophysics on the mechanisms of synaptic function.

(8) £1,654 for research in the Department of Botany and Microbiology on physical and functional relationship between bacterial plasmid DNA and the cell membrane.

(9) £59,857 for a study in the Department of Chemistry of the three-dimensional structures of drugs and small biological molecules.

(10) £601, £250 and £218 for the Department of Chemistry and UCHMS for studies of pathological-type crystals.

(11) £11,617 for a study in the School of Environmental Studies of the psychophysiological correlates of unfavourable working environments.

(12) £8,745 for the School of Environmental Studies for a study of physiological changes due to environmental factors with special reference to noise and temperature.

(13) £2,620 for research in the Department of Human Genetics and Biometry on human population genetics.

(14) £500 for a study in the Department of Pharmacology of neurotransmission at synapses in the mammalian spinal cord.

(15) £15,010, £1,014 and £116 for research in the Department of Physiology on the relation between mechanical and chemical events in muscular contraction.

(16) £13,178 for research in the Department of Physiology on factors causing pain receptor sensitisation.

(17) £10,832 and £346 for research in the Department of Physiology on the energetics of muscular contraction.

(18) £9,817, £210 and £73 for the Department of Physiology for an investigation of the action of muscle afferents on their own alpha and gamma motoneurones.

(19) £6,640 for the Department of Physiology for electron microscopical studies of contractile structures in muscle fixed during activity.

(20) £6,422 for research in the Department of Physiology on analytical isotachopheresis in muscle energetics.

(21) £2,590 for the Department of Physiology for biochemical studies of frog muscle myosin.

(22) £770 for the Department of Physiology for an investigation into the cause of intraventricular haemorrhage in the newborn.

(23) £7,284 for a study in the Department of Psychology of cognitive and manipulative skills in ape and human infants.

(24) £9,424 for research in the Department of Zoology and Comparative Anatomy on human and mouse cells mediating toxicity *in vitro*.

(25) £297 and £129 for research in the Department of Zoology and Comparative Anatomy on the immunology of the nervous system.

(26) Research training support grants totalling £15,878.

Meteorological Office

£1,028 for the Department of Physics and Astronomy for research on the upper atmosphere structure.

Ministry of Defence

(1) £17,643 and £8,978 for the Department of Biochemistry for biochemical studies on oxygen toxicity.

(2) £1,841 for a study in the Department of Civil and Municipal Engineering of international design formulae for stress analysis of lightweight military structures.

(3) £11,440 for research in the Department of Electronic and Electrical Engineering on microwave circuit functions using acoustic surface waves.

(4) £5,294 and £76 for research in the Department of Electronic and Electrical Engineering on null steering antennas.

(5) £4,631 for research in the Department of Electronic and Electrical Engineering on hybrid modes in lossy coaxial cables.

(6) £300 for research in the Department of Electronic and Electrical Engineering on electromagnetic levitation of liquid metal.

(7) £187 for research in the Department of Electronic and Electrical Engineering on whip antennas for vehicles.

(8) £7,570 for research in the Department of Mechanical Engineering on control systems for submersible vehicles.

(9) £5,131 for research in the Department of Mechanical Engineering on fatigue crack growth under random loading.

(10) £2,975 for the Department of Mechanical Engineering in support of a naval architecture mid-career updating course.

(11) £4,892 for the Department of Phonetics and Linguistics for listener identification of languages on the basis of prosodic features.

(12) £3,930 for a study in the Department of Phonetics and Linguistics of the perception of speech sound differences.

(13) £10,000 for a study in the Department of Statistics and Computer Science of software problems in computer networks.

(14) £5,000 for the Department of Statistics and Computer Science for the use of ARPANET services.

(15) £150 for a defence fellowship in the Department of Statistics and Computer Science.

Ministry of Overseas Development Administration

£10,345 for the School of Environmental Studies in support of national urbanisation planning research on planned urban growth in Zambia.

Muscular Dystrophy Associations of America Inc.

(1) £3,105 for research in the Department of Biochemistry on biochemical mechanisms involved in the hypertrophic response of rat diaphragm muscle to denervation.

(2) $14,000 for a postdoctoral fellowship in the Department of Physiology.

(3) $1,000 for a fellowship supply allowance in the Department of Physiology.

National Coal Board

£30,000 for the Department of Electronic and Electrical Engineering for studies on seismic exploration of coal seams.

The National Fund for Childbirth Research

£400 for the Department of Physiology in support of a research visit to the U.S.A.

National Fund for Research into Crippling Diseases

(1) £16,511 for research in the Department of Anatomy and Embryology on allergic neuritis and multiple sclerosis.

(2) £16,140 for research in the Department of Anatomy and Embryology on the immunological basis of response to sensory nerve myelin.

Nature Conservancy Council

£6,504 for the Departments of Zoology and Comparative Anatomy, Botany and Microbiology and Geography for a survey of vegetational habitat in North West Sutherland.

Natural Environment Research Council

(1) £2,303 for a study in the Department of Geology of oceanography and geology of selected areas in the Caribbean.

(2) £1,458 for the Department of Geology for an investigation of the Hebridean Continental Margin.

(3) £1,240 for the Department of Geology for high pressure and temperature rheological experiments on geological materials in testonics.

(4) £19,656 for the Department of Physics and Astronomy for the study of surface processes and crustal evolution on the terrestrial planets—extension of mapping of Casius Quadrangle project.

(5) £1,329 for an investigation in the Department of Zoology and Comparative Anatomy of the origin and early history of the mammalia.

(6) Research training support grants totalling £3,857.

North Atlantic Treaty Organisation

B.Fr. 320,000 for a study in the Department of Chemistry of the anharmonicity in molecular crystals.

The Nuffield Foundation

(1) £5,470 for the Department of Anatomy and Embryology for fundamental studies in brain theory and psychology.

(2) £750 for the Department of Anthropology for a study of regional origin and urban class in Nigeria.

(3) £1,985 and £129 for the Department of Civil and Municipal Engineering for a study of passenger journey times on an urban railway.

(4) £800 for the School of Environmental Studies in support of an extension service for the benefit of university schools of architecture, planning and urban administration in developing countries.

(5) £215 for the School of Environmental Studies in support of the Development Planning Unit.

(6) £500 for the Department of Latin for the development of a beginner's Latin course for undergraduates.

Office of Naval Research, U.S.A.

Loan of Terminal Interface Message Processor and accessories valued at $125,000, plus use of facilities valued at £20,000 per annum, for research on network implementation in the Department of Statistics and Computer Science.

The Paul Instrument Fund

£10,470 for the Department of Photogrammetry and Surveying for the construction of a device for automatic contour plotting.

Post Office Contracts Division

(1) £4,000 for the Department of Electronic and Electrical Engineering for a computer evaluation of switching diodes for millimetre wave communication systems.

(2) £3,500 for the Department of Electronic and Electrical Engineering for semiconductor device computer experiments.

(3) Provision of free telephone line (London–Norway) to the value of £19,766 to the Department of Statistics and Computer Science for link into the ARPA Network.

Royal College of Physicians

£3,386 and £1,089 for the Department of Statistics and Computer Science in support of research on statistical analyses.

Royal Institute of British Architects

£5,880 for the School of Environmental Studies for a study of the structure of the architectural profession.

The Royal Society

(1) £78,840 for a Royal Society Foulerton Research Professorship and expenses in the Department of Biophysics.

(2) £74,089 for a Royal Society Research Professorship and expenses in the Department of Physiology.

(3) £3,516 for a research fellowship in the Department of Zoology and Comparative Anatomy.

The Robert and Lisa Sainsbury Charitable Fund

£3,000 for the Slade School of Fine Art for the benefit of young sculptors.

Science Research Council

(1) £11,174 for research in the Department of Biochemistry on the mechanism of action and specificity of amidases of Pseudomonas aeruginosa.

(2) £7,143 and £600 for research in the Department of Biochemistry on the mechanism of enzyme action as approached by determination of spectra of intermediates.

(3) £500 for research in the Department of Biochemistry on the control of eucaryotic gene expression.

(4) £16,795 for a study in the Department of Botany and Microbiology of the function of iron-sulphur proteins and manganese in photosynthetic electron transport.

(5) £7,000 for research in the Department of Botany and Microbiology on cytochemical and ultrastructural features of plant spermatogenesis.

(6) £4,735 for a study in the Department of Botany and Microbiology on the plant cell division cycle.

(7) £24,608 for research in the Department of Chemical Engineering on crystallization in the presence of impurities.

(8) £22,490 for research in the Department of Chemical Engineering on the technology of enzymes immobilised to magnetic supports.

(9) £5,715 and £652 for the Department of Chemical Engineering for kinetic studies of atomic and radical reactions and studies of combustion intermediates by photoelectron spectroscopy.

(10) £3,765 for the Department of Chemical Engineering for the catalytic reduction of nitrogen dioxide in a two-dimensional fluidised bed.

(11) £1,985 for a study in the Department of Chemical Engineering of crystallization mechanisms.

(12) £22,070 for the Department of Chemistry for laser Raman spectroscopy.

(13) £20,000 for research in the Department of Chemistry on the application of 13c NMR spectroscopy to structural and stereochemical problems.

(14) £17,400 for the Department of Chemistry for microwave spectroscopy.

(15) £11,400 for the Department of Chemistry for high-resolution molecular electron spectroscopy and photochemistry.

(16) £7,850 for research in the Department of Chemistry on the synthesis of large-ring conjugated systems.

(17) £7,750 for research in the Department of Chemistry on the synthesis of highly strained acetylenes.

(18) £7,150 for a study in the Department of Chemistry of laticyclic interactions.

(19) £6,381 for the Department of Chemistry for mechanistic studies of alkyl-transfer reactions of organic transition metal compounds.

(20) £6,381 for research in the Department of Chemistry on homolytic autoxidation of organometallic compounds.

(21) £3,450 for a study in the Department of Chemistry of encounter rates in electrophilic aromatic substitution.

(22) £1,334 for the Department of Chemistry for mechanistic studies on organometallic reactions.

(23) £810 for a study in the Department of Chemistry of the factors affecting growth and development of animal cells.

(24) £41,196 for an investigation in the Department of Civil and Municipal Engineering of interactive modes of elastic and plastic structural buckling.

(25) £40,510 for a study in the Department of Civil and Municipal Engineering of analytical problems in transportation planning.

(26) £40,040 for research in the Department of Civil and Municipal Engineering on improvements to the control of traffic signals at intersections.

(27) £28,098 for the Department of Civil and Municipal Engineering for shearing a soil sample with controlled changes in applied stress axes.

(28) £17,950 for a study in the Department of Civil and Municipal Engineering of relationships between motor vehicle characteristics and the geometric standards of roads.

(29) £16,250 for a study in the Department of Civil and Municipal Engineering of the design implications and geometric imperfections in cooling towers.

(30) £13,400 for a study in the Department of Civil and Municipal Engineering of the applications of Catastrophe Theory in civil engineering.

(31) £8,658 for the Department of Civil and Municipal Engineering for a study of urban railway capacity.

(32) £4,207 for a senior visiting fellowship in the Department of Civil and Municipal Engineering.

(33) £4,157 for a senior visiting fellowship in the Department of Civil and Municipal Engineering.

(34) £1,675 for research in the Department of Civil and Municipal Engineering on turbulence in separated flows and its effects on erodible sand beds.

(35) £1,378 for the Department of Civil and Municipal Engineering for a comparison of digital and analogue methods of assigning traffic to a road network.

(36) £1,070 for a senior visiting fellowship in the Department of Civil and Municipal Engineering.

(37) £214,262 for research in the Department of Electronic and Electrical Engineering on microwaves.

(38) £18,452 for research in the Department of Electronic and Electrical Engineering on integrated optical circuit design and fabrication.

(39) £10,302 for the Department of Electronic and Electrical Engineering for studies of an improved optical fibre data highway.

(40) £4,333 for research in the Department of Electronic and Electrical Engineering on electromagnetic levitation of liquid metal: investigation by analogue technique.

(41) £2,816 for research in the Department of Electronic and Electrical Engineering on the application of acoustic echo sounding techniques to radio wave propagation studies.

(42) £2,793 for research in the Department of Electronic and Electrical Engineering for a feasibility study on electric motors with high specific outputs from 1 w–500 w.

(43) £2,760 for the Department of Electronic and Electrical Engineering for the preparation of controlled property dielectric films by RF sputtering.

(44) £1,584 for a senior visiting fellowship in the Department of Electronic and Electrical Engineering.

(45) £12,699 for the School of Environmental Studies for a study of morphology of building complexes.

(46) £6,268 for the School of Environmental Studies for a study of a space allocation system for organisations.

(47) £300 for a study in the Department of Human Genetics and Biometry of the role of sex chromosomes in embryonic growth.

(48) £33,500 for research in the Department of Mechanical Engineering on the directional stability and control of marine vehicles.

(49) £26,392 for research in the Department of Mechanical Engineering on radiant cooling to reduce energy requirements for air conditioning.

(50) £2,850 for research in the Department of Mechanical Engineering on the influence of crack closure on random load fatigue crack growth.

(51) £10,645 for the Department of Pharmacology for a liquid scintillation counter.

(52) £283,240 and £71,840 for the Department of Physics and Astronomy for geophysical and astronomical research in space.

(53) £60,326 and £42,908 for the Department of Physics and Astronomy for further observations and extension to 2-D operation in the development of U.C.L. image photon counting systems.

(54) £52,840 and £1,947 for the Department of Physics and Astronomy for the Bubble Chamber film analysis 1975–76.

(55) £52,715 for the Department of Physics and Astronomy for a study of atmospheric structure and dynamics.

(56) £41,457 for a study in the Department of Physics and Astronomy of parallel processing networks.

(57) £24,959 for the Department of Physics and Astronomy, under an agreement with Rutherford High Energy Laboratory, for the development of equipment for the study of hadronic processes.

(58) £14,838 for the Department of Physics and Astronomy, under an agreement with Rutherford High Energy Authority, for a search for short-lived particles produced in neutrino interactions.

(59) £10,029, £2,088 and £1,136 for the Department of Physics and Astronomy for optical studies of ultra-violet objects.

(60) £140 for the Department of Physics and Astronomy for spectroscopic observations of ultra-violet objects.

(61) £14,061 for the Department of Physics and Astronomy in support of participation in IUE Project.

(62) £9,734 for the Department of Physics and Astronomy for differential cross-section measurements for electron alkali metal atom collisions.

(63) £8,856 for the Department of Physics and Astronomy for the calculation of atomic data required for astrophysics.

(64) £7,763 for a study in the Department of Physics and Astronomy of the interactions of hadrons and nuclear physics.

(65) £7,171, £5,499, £3,382 and £1,273 for research in the Department of Physics and Astronomy on ground-based infra-red astronomy at Tenerife.

(66) £6,027 for the Department of Physics and Astronomy for an interpretation of observations of the Solar Corona.

(67) £5,849 for a study in the Department of Physics and Astronomy of new techniques for the calculation of atomic radiative transition probabilities.

(68) £5,110 and £2,005 for the Department of Physics and Astronomy for a balloon programme of infra-red astronomy.

(69) £3,892 and £3,364 for the Department of Physics and Astronomy for infra-red spectroscopy from Mauna Kea.

(70) £3,500 for the Department of Physics and Astronomy, under an agreement with Rutherford High Energy Laboratory, for a search for heavy, long-lived integrally charged particles.

(71) £3,266 for a study in the Department of Physics and Astronomy of atomic data required for astrophysics research.

(72) £2,662 for the Department of Physics and Astronomy for a determination of element abundancies in Gaseous Nebulae.

(73) £575 for the Department of Physics and Astronomy for expenses in connection with attendance at Mariner Venus Mercury launch.

(74) £484 and £50 for the Department of Physics and Astronomy for a study of bright Wolf-Rayet stars.

(75) £465 for a study in the Department of Physics and Astronomy of high energy hadrons and nuclear physics.

(76) £418 and £290 for the Department of Physics and Astronomy for spectrometry of quasars and related objects.

(77) £366 for the Department of Physics and Astronomy for infra-red spectroscopy at 10 μ of planetary nebulae HII regions and other sources.

(78) £296 for the Department of Physics and Astronomy for attendance at conference on high energy physics.

(79) £135 for the Department of Physics and Astronomy for spectroscopy of Dwarf Novae.

(80) £48,179 for the Department of Statistics and Computer Science for an investigation of software and operational requirements for computer networks.

(81) £16,069 for the Department of Statistics and Computer Science for the provision of advisory services and documentation services to the university users of the ARPA network.

(82) £3,614 for an investigation in the Department of Statistics and Computer Science of network protocols.

(83) £665 in support of a senior visiting fellowship in the Department of Statistics and Computer Science.

(84) £14,722 for research in the Department of Zoology and Comparative Anatomy on cell and developmental biology of amoeba flagellate protozo.

(85) Research training support grants totalling £36,355.

Smith Kline and French Laboratories Limited

(1) £2,483 and £301 for research in the Department of Pharmacology on H_2-receptor antagonists.

(2) £1,355 for the Department of Pharmacology for the purchase of a centrifugal freeze-dryer with mechanically refrigerated condenser.

Social Science Research Council

(1) £2,783 for a study in the Department of Anthropology of economic anthropology and the effect of social monitoring on the elasticity of consumption with respect to changes in income.

(2) £850 and £100 for research in the Department of Anthropology into genetical and sociological aspects of marriage movement in modern Britain.

(3) £5,999 for the School of Environmental Studies for a study of the distributional effects of ownership and control of land uses.

(4) £3,503 for the School of Environmental Studies for a follow-up study of ex-students of architecture.

(5) £3,875 for the Department of History towards the cost of a definitive edition of the works of Jeremy Bentham.

(6) £805 for research in the Department of History on the development of economic history in Britain.

(7) £700 for a study in the Department of History of the social structure and economic development of Andalusia, 1600–1660.

(8) £3,087 for the School of Library, Archive and Information Studies for the preparation of a calendar and handlist of recent additions to the archives of Karl Pearson.

(9) £200 for a study in the Department of Psychology of psychological factors in hypothermia of the elderly.

(10) £8,227 for a study in the Department of Statistics and Computer Science of problems of statistical methodology in scientific research.

(11) £5,921 for a study in the Department of Statistics and Computer Science of the Biometric School and its influences on the social sciences.

Standard Telecommunications Laboratories Limited

£1,000 for research in the Department of Electronic and Electrical Engineering on optical problems.

The late Miss May P. Thomson

A bequest of £50 to the College for the general purposes of the Library. [Miss Thomson was a student in the Faculty of Arts, 1919–22.]

Tin Research Institute

£960 for a research studentship in the Department of Chemistry.

William Townsend Lecture Committee

Donations totalling £1,430.86 to found the William Townsend Memorial Lecture in memory of the late Professor William Townsend, sometime student and member of staff of the Slade School; Professor of Fine Art, 1968–73, Fellow of the College.

United Kingdom Atomic Energy Authority

(1) £731 for research in the Department of Chemical Engineering on macromolecular separations.

(2) £5,000 for the Department of Physics and Astronomy for studies in atomic collisions.

(3) £4,965 for research in the Department of Physics and Astronomy on the interactions of heavy ions with thin foils.

(4) £4,508 for the Department of Physics and Astronomy for a measurement of the absolute transition probabilities in excited ions.

(5) £153 for a study in the Department of Physics and Astronomy of optical emissions from ions following passage through stripping media.

(6) £5,000 for the Department of Statistics and Computer Science as a contribution towards cost of Data Link from U.C.L. to Norsar, Norway.

(7) £1,700 for the Department of Statistics and Computer Science for ARPA Network software.

(8) £1,050 for the Department of Statistics and Computer Science for the manufacture, installation and testing of a synchronous adaptor.

United States Air Force

$5,000 for the Department of Physics and Astronomy for the determination of air density, temperature and winds at high altitude.

United States Army

$10,000 for research in the Department of Electronic and Electrical Engineering on microwave scanning and acoustic surface wave holographic techniques for non-destructive testing.

United States Public Health Service

(1) $26,875 for research in the Department of Anatomy and Embryology on ineffective synapses respiration.

(2) $3,000 for a fellowship supply allowance in the Department of Anatomy and Embryology.

(3) $9,262 for research in the Department of Animal Genetics on molecular shape and teratogenic specificity.

(4) $1,000 for a fellowship supply allowance in the Department of Biophysics.

(5) $26,592 for research in the Department of Chemistry on the conformations of cholinergic molecules.

(6) $21,492 for research in the Department of Chemistry on the conformations of psychoactive substances.

(7) $3,000 and $3,000 for a research fellowship in the Department of Human Genetics and Biometry.

(8) $3,000 for a fellowship supply allowance, and $3,000 in support of a fellowship, in the Department of Zoology and Comparative Anatomy.

University of London—Interim Library Resources Co-ordinating Committee

A grant of £1,263 to the Library from the Central Book Fund to cover half the cost of three years of back volumes of *Science Citation Index* and *Permuterm Subject Index*.

University of Pennsylvania

$500 for the Department of Biochemistry for computer simulations.

PROFESSOR N. F. WATSON, see p. 141.

THE CHILDREN OF DR GEORGE WEBBER

A gift of £400 by the children of Dr George Webber, on the occasion of his 75th birthday, to found the Webber Prize, in commemoration of his long association with the Faculty of Laws. The Prize, of the value of £50, is awarded each session to the student of the College who has shown the greatest proficiency in the Intermediate examination of the LL.B. Degree.

THE WELLCOME TRUST

(1) £28,500 for research in the Department of Anatomy and Embryology on neuro-anatomy and physiology and the history of the nervous system.

(2) £21,117 for a study in the Department of Anatomy and Embryology of the sympathetic innervation of blood vessels in mammals, including humans.

(3) £17,606 for the Department of Anatomy and Embryology for a study of purinergic nerves.

(4) £3,306 for research in the Department of Anatomy and Embryology on hippocampal function.

(5) £607 for the Department of Anatomy and Embryology for studies of the innervation of the gut.

(6) £230 for an investigation in the Department of Anatomy and Embryology of the mechanisms of synaptic transmission.

(7) £130 and £70 for a vacation scholarship in the Department of Anatomy and Embryology.

(8) £9,679 for a temporary lectureship in the Sub-Department of the History of Medicine in the Department of Anatomy and Embryology.

(9) £7,004 and £1,175 for the Sub-Department of the History of Medicine in the Department of Anatomy and Embryology for research on medicine in medieval England.

(10) £190 in support of expenses in the Sub-Department of the History of Medicine in the Department of Anatomy and Embryology.

(11) £484 and £265 in support of research training scholarships in the Sub-Department of the History of Medicine in the Department of Anatomy and Embryology.

(12) £596 in support of a research training scholarship in the Department of Biochemistry.

(13) £500 for the Department of Biochemistry for studies in lactogenesis.

(14) £11,983 for a study in the Department of Biophysics of time course of action of digitalis glycosides and related compounds.

(15) £981 in support of a Japanese research fellowship in the Department of Biophysics.

(16) £740 for research in the School of Library, Archive and Information Studies on the Galton archives.

(17) £4,900 and £439 for a study in the Department of Pharmacology of problems of central nervous transmitters and auto-radiography.

(18) £49 for the Department of Pharmacology in support of research in drug allergy.

(19) £70 for the Department of Physiology for travel and subsistence expenses in connection with collaborative studies in the mechanical properties of skeletal muscle fibre.

Xerox Research (UK) Limited

(1) £4,000 for research in the Department of Electronic and Electrical Engineering on integrated non-linear optical devices.

(2) £3,000 for an investigation in the Department of Electronic and Electrical Engineering of optical waveguide materials.

The Ralph Yablon Company Limited

£1,000 for the Library for the maintenance and expansion of the Brodie Library.

BENEFACTIONS TO THE LIBRARY

Mrs Enriqueta Frankfort

The gift of 300 books from the library of the late Professor Henri Frankfort.

Mr Jack Gaster

The gift of the Gaster Archive previously on permanent loan to the Library.

Dr T. H. Shire

The gift of 40 volumes mainly of Hebraica.

APPENDIX XIII

COLLEGE ACCOUNTS 1974–75

The Balance Sheet and the Income and Expenditure Account for the year will be found on pages 157–9.

BALANCE SHEET

LIABILITIES

The Capital Account increased by £681,175. This increase is mainly attributable to the occupation of Wates House and receipt of capital grant in respect of 49–55 Grafton Way.

ASSETS

Freehold and Leasehold Land and Buildings increased by £678,566, reflecting the completion of Wates House.

TRUST FUNDS

The College holds endowments in the form of 218 separate trust funds with a total value of £1,676,458. The funds yielded a total income of £154,000.

INCOME AND EXPENDITURE

The income for the year exceeded expenditure by £43,318. The balance carried forward on the Income and Expenditure Account was £252,469 (£209,151 in 1973–74).

Income exceeded that for 1973–74 by £2,467,329. Grants from the Court of the University increased by £1,909,704. Fees increased by £19,760 and grants for research increased by £503,878.

Expenditure, including allocations to and from Reserves, was £2,634,491 more than in 1973–74. An additional £1,932,793 net was spent on academic departments and services. Maintenance of Premises cost an additional £463,692 net. An additional £251,793 net was spent on administration, and miscellaneous expenditure decreased by £13,787 net.

Income and expenditure under the main classifications in 1974–75 as compared with 1973–74 and with the corresponding year of the previous quinquennium, are shown in the following table.

EXPENDITURE	1969–70 £	%	1973–74 £	%	1974–75 £	%
Salaries and Pensions of Teaching Staff	2,391,622	33·4	3,802,098	35·7	4,626,380	34·8
Departmental Expenses, including Library	1,570,471	21·9	2,609,616	24·4	3,214,249	24·2
Research Grants ..	1,282,623	17·9	1,689,321	15·9	2,193,199	16·5
Maintenance of Premises ..	1,045,252	14·6	1,457,064	13·7	1,920,756	14·4
Administration ..	430,419	6·0	699,398	6·5	951,191	7·1
Selective Employment Tax	268,418	3·8	—	—	—	—
Other	168,363	2·4	402,669	3·8	388,882	3·0
	£7,157,168	100·0	£10,660,166	100·0	£13,294,657	100·0
INCOME						
Endowments ..	82,951	1·2	113,898	1·1	159,584	1·2
Grants	4,795,759	67·4	8,134,293	74·8	10,043,997	75·4
Donations	153,038	2·1	260,317	2·4	238,360	1·8
Fees	400,056	5·6	466,842	4·3	486,602	3·6
Grants for Research	1,282,623	18·0	1,689,321	15·5	2,193,199	16·4
Research Training Support Grants ..	43,570	0·6	46,461	0·4	56,090	0·4
Selective Employment Tax	268,418	3·8	—	—	—	—
Other	93,118	1·3	159,514	1·5	160,143	1·2
	£7,119,533	100·0	£10,870,646	100·0	£13,337,975	100·0

EXTRA-BUDGETARY ACTIVITIES

The College administers the finances of many research projects supported from outside sources. 530 were being pursued actively at 31 July 1975. Income and expenditure increased from £1,689,321 in 1973–74 to £2,193,199 in 1974–75.

CAPITAL GRANTS

Capital grants made during the year 1974–75 were as follows:	£
Alterations for Chemical Engineering:	
Building work	6,598
Furniture	348
Alterations for Zoology:	
Building work	5,451
Furniture	14,114
Professional Fees	286

Alterations to New Engineering Building:	
Building work	9,192
Furniture	1,344
Chemistry Building Stage I: Building work	56,317
Conversion of Bartlett Building for UCRF Decanting:	
Building work	214,500
Professional Fees	26,812
Conversion of 3 and 4 Taviton Street for UCRF Decanting:	
Building work	60,500
Professional Fees	10,467
Contribution	20,000
Alterations to first floor of new Chemistry Building:	
Building work	16,074
Professional Fees	1,166
Subsidy in aid of loan financed residence scheme	1,794
Improvements to teaching facilities for Pharmacology: Building work	8,991
	£453,954

SCHOLARSHIPS AND PRIZES

Expenditure amounted to £28,615. Awards were made as under:

	Undergraduate	*Postgraduate*
	£	£
From Endowments	6,841	6,455
,, Donations	—	7,380
,, General Income	5,088	2,581
	£11,929	£16,686

UNIVERSITY COLLEGE LONDON

BALANCE SHEET 31 JULY 1975

31.7.74 £		£
15,615,059	CAPITAL ACCOUNT	16,296,234
32,253	REDEMPTION FUND	34,085
8,693	LOAN	6,861
15,656,005		16,337,180
1,916,820	RESERVES AND AMOUNTS SET ASIDE	2,320,367
564,641	EARMARKED FUNDS	517,798
1,347,980	CURRENT LIABILITIES	1,119,016
19,485,446		20,294,361
1,476,901	TRUST FUNDS	1,676,458
£20,962,347		£21,970,819

NOTE

Freehold and Leasehold Land and Buildings

(*a*) Freehold and Leasehold land and buildings in the accounts do not include fixtures, furniture and equipment. The cost of these assets is written out of the accounts on purchase or on completion of a Project against the corresponding grants or other monies received and are not therefore included in Capital Account.

(*b*) Freehold land and buildings are stated at a valuation made in 1959 on the basis of the then current land values and building costs wtih subsequent additions at cost or valuation, as estimated by the College authorities on a basis which excludes professional fees.

(*c*) There are commitments for future expenditure on capital projects which amount to £417,000 at 31 July 1975 (*1974 £165,000*).

31.7.74 £		£
15,435,446	FREEHOLD LAND AND BUILDINGS—See Note below	16,119,446
383,206	LEASEHOLD LAND AND BUILDINGS	377,772
15,818,652		16,497,218
—	CAPITAL AND OTHER WORKS IN PROGRESS	79,852
859,726	INVESTMENTS at Lower of Cost and Market Value .. (*Market Value at 31 July 1975, £970,648; 31 July 1974, £859,726*)	970,648
1,151,480	EXPENDITURE RECOVERABLE FROM GRANTS ..	1,224,443
1,655,588	CURRENT ASSETS	1,522,200
19,485,446		20,294,361
1,476,901	TRUST FUNDS	1,676,458
£20,962,347		£21,970,819

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 JULY 1975

EXPENDITURE

1973–74 £		1974–75 £	£
	Administration		
550,433	Salaries	711,601	
120,016	Advertising, Printing, Stationery, Postage and Telephone	190,175	
28,949	Other Expenses (including Professional Fees)	49,415	
(699,398)			951,191
	Academic Departments		
3,713,901	Salaries of Teaching Staff	4,512,230	
1,229,360	Departmental Wages: Technical Staff	1,463,323	
329,408	Secretarial Staff	444,278	
705,340	Departmental and Laboratory Maintenance	806,189	
1,689,321	Research Expenditure covered by grants on Research Contracts (contra opposite)	2,193,199	
6,817	Other Expenditure	10,644	
(7,674,147)			9,429,863
	Academic Services		
	Libraries: Salaries .. 255,332		
352,876	General Expenditure 173,618		
		428,950	
10,102	Central Photographic Service	12,880	
5,744	Audio Visual Aids	10,584	
8,464	Radiation Hazards	9,292	
719	Miscellaneous	2,322	
2,864	Small Group Teaching	1,898	
(380,769)			465,926
	Maintenance of Premises		
314,676	Rates	489,820	
28,990	Insurance	42,111	
	Rents and other payments for use of buildings:		
	Halls of Residence .. 29,115		
84,636	Other Buildings .. 45,894		
		75,009	
261,672	Heat, Light, Water and Power	322,436	
556,132	Repairs and Maintenance and Buildings including amounts set aside for long-term maintenance	756,455	
140,787	Wages of Porters and Attendants	185,043	
19,195	Other Expenses	22,992	
(1,406,088)			1,893,866
	General Educational		
1,497	Examinations	1,692	
39,150	Scholarships and Prizes	26,815	
1,294	Public Lectures	4,271	
8,000	Staff Attendance at Conferences	10,000	
39,214	Student Vacation Grants	35,890	
9,230	Miscellaneous	10,683	
(98,385)			89,351

INCOME

1973–74 £		1974–75 £	£
	Endowments		
113,898	Income of Trust Funds appropriated for purposes specified by Trusts against expenditure included opposite		159,584
	Donations and Subscriptions: Appropriated for:		
481	Libraries	5,233	
21,547	Scholarships and Bursaries	7,380	
158,542	Salaries and Superannuation	175,002	
79,747	Departmental and Laboratory Maintenance	50,745	
(260,317)			238,360
	Grants from University Court		
7,025,000	General	8,256,900	
516,300	Supplementary	548,000	
(7,541,300)			8,804,900
	Earmarked:		
—	Minor Building Projects	37,465	
158,224	Academic Salary Revision 1974 Scheme	254,663	
1,427	Clinical Salary Revision 1974 Scheme	1,989	
—	Clinical Salary Revision 1975 Scheme	2,351	
46,586	Academic London Allowance	222,954	
314,676	Rates	489,820	
1,356	Hayter Committee	639	
5,411	Parry	9,861	
—	Value Added Tax	85,600	
7,000	University College/Royal Free Medical Project—Administration	7,288	
10,025	M.Sc. Course in Ergonomics	14,807	
48,288	Former Institute of Computer Science	92,110	
—	Laser-Raman Spectrometer	1,644	
—	Pension Increase Order	17,906	
(592,993)			1,239,097
46,461	**Research Council Training Support Grants**		56,090
466,842	**Fees**		486,602
1,689,321	**Grants for Research**, including research contracts (contra opposite)		2,193,199
30,170	**Contributions for Services Rendered**		40,534
20,004	**College Properties**—Rents received		20,677
	Other Items		
23,407	Special Funds Appropriation	34,688	
73,902	Interest Receivable	50,199	
12,031	Miscellaneous	14,045	
(109,340)			98,932

	Student Facilities and Amenities		
70,800	Grant to Students Union	82,153	
2,180	Central Collegiate Building	4,000	
3,556	Salaries: Wardens of Halls of Residence ..	3,702	
37,078	Student Health Service	46,322	
3,102	Students' Purposes Fund	1,634	
758	Crabb Robinson and Ealing Hall Funds ..	596	
8,232	Central Admissions Scheme	9,187	
2,373	Miscellaneous	2,822	
4,375	Careers Office	5,633	
6,416	Student Counsellor Service..	8,356	
(138,870)			164,405
	Miscellaneous		
88,197	Staff Pensions	114,150	
3,217	Grants from Benevolent Funds	2,480	
5,925	Interest on Overdrafts, etc	1,915	
16,791	Sundries	20,492	
1,867	Refectory: College Subvention 11,999		
	Deficit met by College 27,501	39,500	
(115,997)			178,537
41,163	**Capital Expenditure net from Income**		127,347
10,554,817			13,300,486
87,635	**Provision for London Weighting** (Excluding Academic Staff)		—
10,642,452			13,300,486
	Allocation to Reserves at 31 July 1975		
	Revenue Grants:		
10,000	Administrative Staff Training	10,000	
	Departmental and Laboratory		
235,725	Maintenance	250,465	
20,023	Academic Services	31,070	
72,547	Repairs and Maintenance of Building ..	94,855	
125,713	Minor Works	72,928	
3,953	Student Vacation Grants	8,063	
8,825	Miscellaneous	7,780	
	Development Programme:		
44,000	Relocation and Other Costs	41,694	
(520,786)			516,855
5,011	Small Group Teaching (earmarked funds)		3,113
11,168,249			13,820,454
231,022	**Excess of Income over Expenditure for the Year**		43,318
£11,399,271			£13,863,772
20,542	**Refund of Overclaimed Rates Relating to Prior Years**		—
209,151	Balance 31 July 1975 Carried to Reserve ..		252,469
£229,693			£252,469

	Allocations from Reserves at 1 August 1974		
	Revenue Grants:		
10,000	Administrative Staff Training	10,000	
	Departmental and Laboratory		
304,623	Maintenance	235,725	
50,339	Academic Services	20,023	
39,581	Repairs and Maintenance	72,547	
127,240	Minor Works	125,713	
7,367	Student Vacation Grants	3,953	
—	Miscellaneous	8,825	
	Development Programme:		
45,000	Relocation and Other Costs	44,000	
	Balance at 1 August 1974	520,786	
	Less: Transfer to Earmarked Grants:		
(63,400)	Equipment and Furniture	—	
(520,750)			520,786
7,875	Small Group Teaching		5,011
			13,863,772
(1,329)	Balance as at 1 August 1974		209,151
231,022	Excess of Income over Expenditure for the Year after making allocations (net) from Reserves of £5,829		43,318
£229,693			£252,469

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